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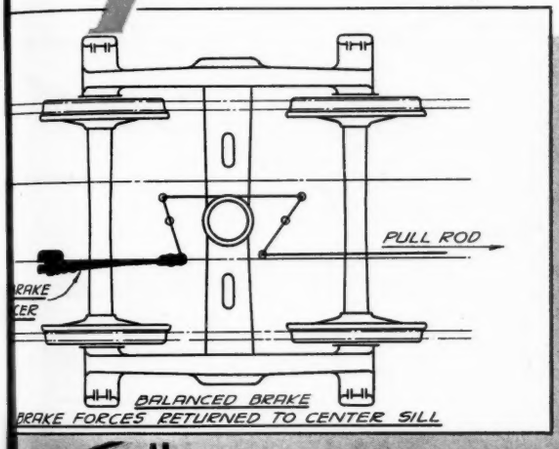
March 22, 1941

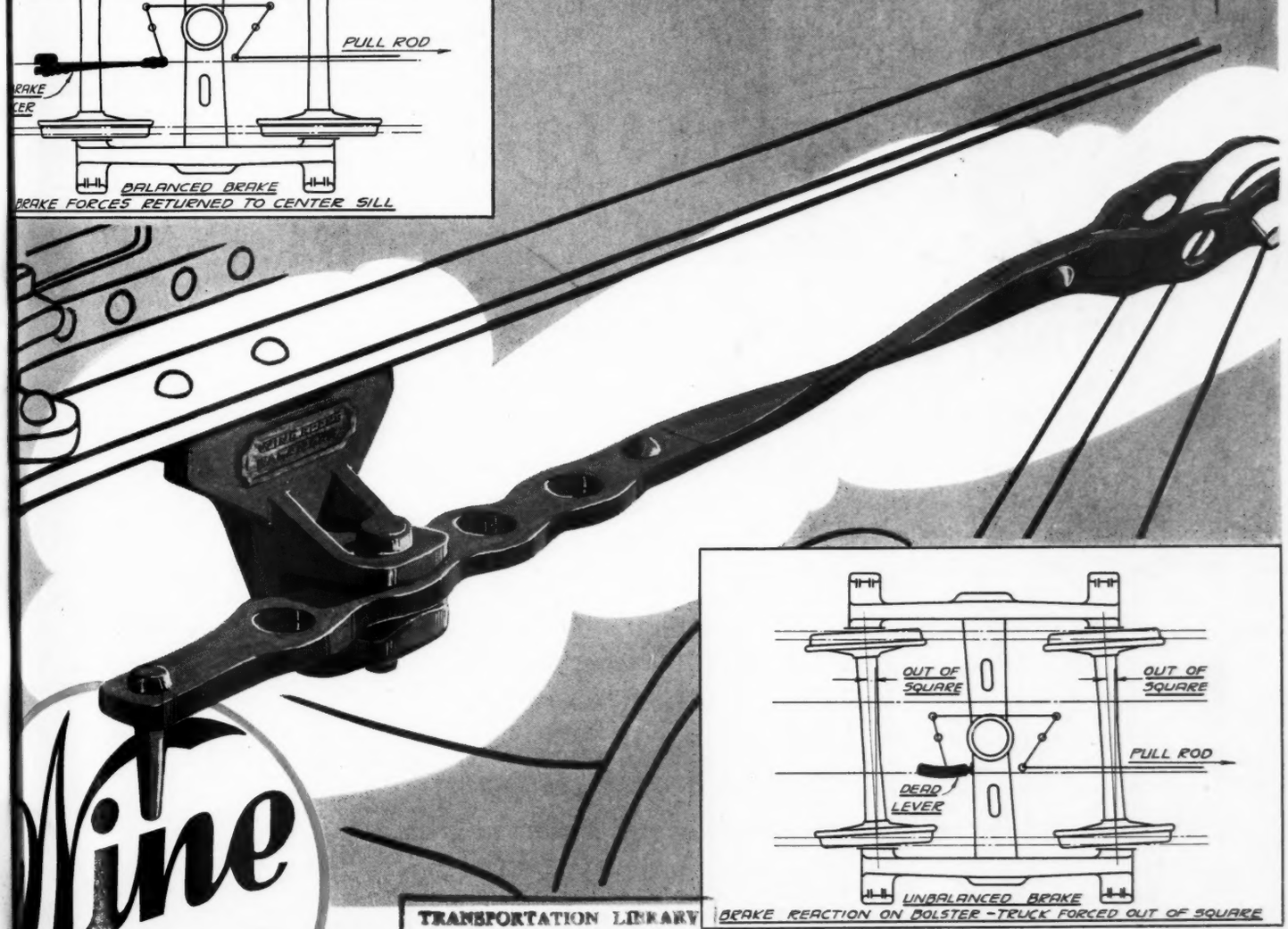
Railway Age

Founded in 1856

Equalized brakes



WHEEL MILEAGE INCREASED



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Philadelphia

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Vol. 110 March 22, 1941 No. 12

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National Defense Boosts Railway Buying to $1,160,000,000 in 1940 . Page 509

A review of railway buying during 1940 together with first totals for the current year.

Transforms Old Freight House Into Modern Produce Terminal 516

This article describes the alterations and additions made by the Rock Island to a little-used two-story freight house in Minneapolis, Minn., converting it into a modern perishable produce terminal.

Dominion Atlantic Truck Substitution Serves Two Functions 530

A Motor Transport Section article describing the manner in which this road replaced its local freight trains by motor trucks, with substantial saving in operating costs.

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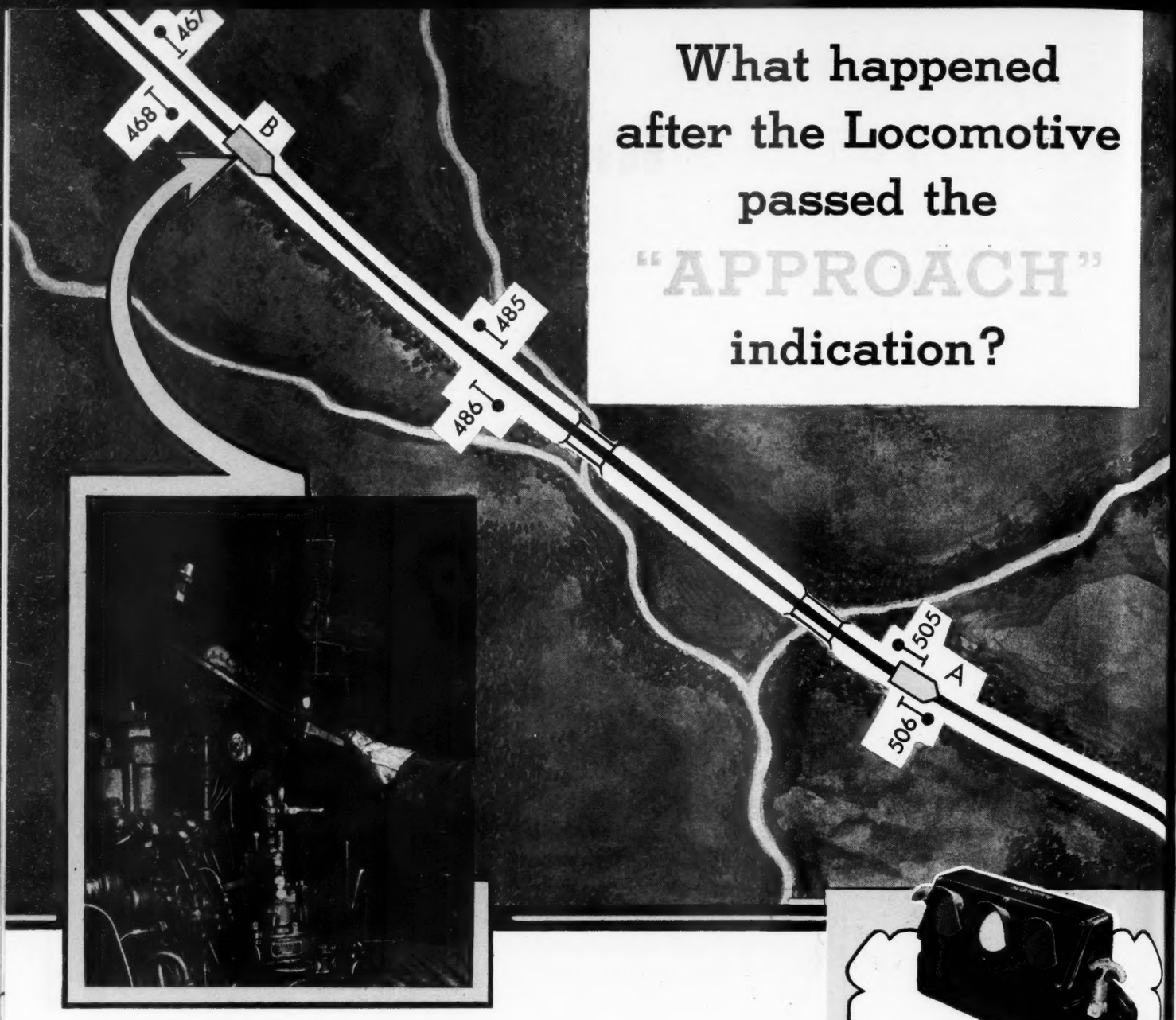
PRINTED IN U. S. A.

What happened after the Locomotive passed the "APPROACH" indication?



When train "A" passes signal 506, (in illustration above) the "approach" indication on the "Union" Continuous Cab Signal in the locomotive of train "B" will immediately change to the less restrictive green or "proceed" indication, thus permitting the engineman of train "B" to resume normal speed, regardless of the location of the train in the block.

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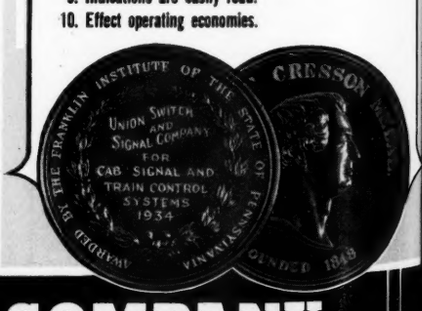
2. **Expedite traffic.**
3. **Signal indications are continuously visible irrespective of fog, other weather conditions, curves or physical obstructions.**
4. **Indicate instantly any changed condition on track ahead.**
5. **Permit trains to increase speed at any point when a less restrictive indication is received.**
6. **Determine location of broken rails.**
7. **Supplemented by audible indication.**
8. **Cab Signal duplicated on fireman's side.**
9. **Indications are easily read.**
10. **Effect operating economies.**



UNION SWITCH & SIGNAL COMPANY

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The Week at a Glance

NEW ACTORS, OLD PLAY: There is a well-known swindle whereby a slicker calls upon a sorrowing widow the day after the funeral to "deliver the Bible her husband ordered with her name stamped on it." Her critical powers blunted by grief and moved to tears at his reminder of the dead man's love, the bereaved lady gladly pays $10 for a 59-cent book. The Washington Administration, finding the people in an emotional state over national defense, slips over the St. Lawrence Seaway on them—which has exactly the same connection with the national emotion that the slicker's Bible has with the widow's love for her husband. The ethical distinction between the two jobs lies in the differences in the sums of money involved.

●

WHY SNUBBERS?: The whole variety of vibrations to which a freight car is subjected is discussed in an article herein by Cyrus Holland (three "translations" and three "rotations"—one set of such motions by the car body and a separate set for each pair of trucks, or 18 different agitations for the car as a whole). How some of these vibrations may tend to "build up"—with effects to lading which are scarcely constructive—is described by the author, who then proceeds to relate how this harmful motion may be controlled—first theoretically and then practically, with snubbing devices.

●

1940 PURCHASE DETAILS: The final detailed figures of railroad purchases in 1940 are given in an article elsewhere in this issue. Total expenditures were 1.16 billions—an increase of 14 per cent over 1939.

●

POST-WAR SPENDING: The army doctors in the last war, some contend, treated everything from insomnia to a broken leg with two simple remedies—iodine and Epsom salts. It is said that Dr. Roosevelt's prescription for any national ill is "a new law and a billion dollars." That is how he treated the depression for eight years. This is the same prescription he is writing almost daily now, to provide for national defense and for aid to Britain. And this week he has announced a huge post-war public works program, indicating that he is going to keep on calling for the only medicine he knows. What will happen when the doctor's bill surpasses the patient's assets? "All we have to fe-ah, is fe-ah itself."

●

AN "INCREDIBLE" EXPERT: Dean Pound has a good term for many alleged government "experts." Their expertness, he says, is *ex officio*. Anyhow, a researcher in the employ of the TNEC, as noted in these pages last week, reported that the A. A. R. had spent the well-nigh "incredible" sum of over 100 million dollars on propaganda activities in the past two decades. Mr. Pelley has now written to Senator O'Mahoney, drawing his attention to the fact that his "incredible" expert got his figures from that old reliable source of objective economic information, the paper "Labor"; and that this researcher made no effort to check the accuracy of this "incredible" information at the A. A. R.

●

METAMORPHOSIS: Due to a shift in the character of its traffic, the Rock Island found itself with a freight house at Minneapolis which was larger than it needed, while its produce facilities were inadequate. So the road effected a swap—the freight house was transformed into a modern produce terminal and the former produce layout now serves as a freight house. The construction details of this shift are given in an illustrated article herein.

●

TOWARD DESPOTISM: Attention is called in the leading editorial herein to the fact that property-owners can no longer look to the courts, as once they could, for very much protection of their property. The courts recently—as legislators and administrative agencies have long done—are seemingly turning to an "appeasement" frame of mind. The "have-nots" are clamoring for the property of the "haves," and the policy seems to be that the law should be interpreted to placate those whose cries are loudest. The editorial contends that the course now being followed will lead to despotism. It would also lead inevitably to national poverty. Present unhappy conditions continue because those who have the true facts to give to the people are backward about doing the job which needs doing; while persons talking the language of the man in the street are, almost without exception, playing him for a sucker.

●

WAGES ON DEFUNCT ROAD: An amazing Adjustment Board referee decision (but one is apt to get hardened by amazement from this source) is reported herein. A railroad is abandoned, and trainmen apply to the Board for compensation under their mileage minimum guarantee which held while the road was being operated—and, believe it or not, the referee awards the trainmen's claim: despite the fact that they had drawn unemployment relief money for the period.

●

BLUENOSE ECONOMY: A profitable use of trucks by the Dominion Atlantic in Nova Scotia, to give a combined collection-and-delivery and way-freight-substitution service, is described in an illustrated article in the Motor Transport Section herein. The advantages of the new service are two sided—economies from the elimination of way-freight trains and heavier traffic from better service to shippers.

●

CHI.-FLA. TRAINS: The three streamlined coach trains which were put in joint operation in December by nine railroads to give daily luxurious and economical service between Chicago and Florida have brought a welcome increase in traffic. The trains have boosted traffic by 35 per cent and have been earning an overall average of $2.25 per mile. Questions asked of passengers reveal that new passengers have been drawn primarily from automobiles.

REWARD FOR FEALTY: The railroads are moving the nation's vital defense traffic with unprecedented speed and efficiency and are doing their patriotic duty in laying in supplies of rolling stock and other materials to enable them to meet all predictable needs of the national defense. When the period of danger is past, how is their faithful service to be remembered? Well, for one thing, the plan is to dig the St. Lawrence Seaway and thereby relieve them of as much traffic and employment as possible. Then, just for good measure, a huge post-war public works program is now being made ready, doubtless containing many schemes for additional canals and superhighways.

●

SABOTAGE WRECK: The derailment of the Pennsylvania's "Buckeye"—caused by saboteurs tampering with a rail—is described and illustrated herein.

●

SHACKLES OFF RR TRUCKS: The heartening decision of the I. C. C. in the Kansas City Southern Transport Company case is reviewed at length in the Motor Transport Section in this issue. Heretofore railroads have been stymied in their efforts to provide co-ordinated truck service, by a Commission ruling which forbade hauling goods in a railroad truck unless the goods did some traveling by rail. This requirement has now been removed, despite the objections of the truck operators—the Commission holding that no carrier can claim a vested right in the continued inefficient operation of a rival.

●

JIM CROW IN COURT: The Supreme Court last week heard arguments on the question whether the Jim Crow laws of many Southern states can be enforced against interstate passengers. Congressman Mitchell, a Negro, is behind the action; and the Justice Department contended that the I. C. C. "erroneously supposed" that Arkansas' Jim Crow law applies to interstate commerce.

●

FORWARDER BILLS: Forwarder regulation legislation continues to make progress—but perhaps not altogether in the direction that these transportation middlemen have in mind. The I. C. C., for instance, has sent a report to the House Committee which scarcely adds to the prestige of the bill the forwarders and truckers are favoring. Meantime the Senate committee has issued a favorable report on S. 210, the bill of Senators Reed and Wheeler, which is not at all the sort of regulatory control the forwarders have in mind.

●

PERISHABLES RATE INDEX: Index numbers of railroad rates have been compiled by the Department of Agriculture, as reported in the news pages herein. The base period of 100 is assigned to the twelve months embracing the last half of 1913 and the first half of 1914. On that base, all fruits and vegetables bore a rate of 162 in 1920 which, by 1938, had fallen to 134.

"PASSENGER SERVICE CAN BE PROFITABLE!"

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GM DIESEL FACTS

ELECTRO-MOTIVE CORPORATION
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RAILWAY AGE

Management's Duty to Owners

Any organism, to survive, must maintain its *adaptability* to changing circumstances. There isn't much question, for example, that the railroads would have fared better in meeting highway competition if they had awakened a little sooner than they did to its possibilities, and had begun to adapt themselves to the new situation somewhat more quickly than they did. A revolution has taken place, and is continuing, in the political and legal framework in which business is transacted in this country—and business organizations, to survive this revolution, need to be acutely aware of what is going on; and to modify their practices to the extent necessary and possible to enable them to outlast these changes.

Management's Obligation

It is the duty of this paper to report to its readers its interpretation of this political and legal revolution as it affects the railroad industry, in the same way that it is our job to render account of the technological innovations which are applicable to railway operation. Management cannot omit taking into consideration such political and legal factors, any more than it could safely ignore applicable mechanical and engineering developments. There is, though, a strong tendency to underestimate these social changes, because for so many generations we have taken the institution of private property for granted. It has seemed, like the roundness of the earth, a condition which, once discovered, would stay that way henceforth. Recent developments point to a different conclusion.

The change that is taking place can, perhaps, be illustrated by an analogy with mediation and arbitration in labor disputes. Under the arbitration process, a dispute is, supposedly, weighed on its merits—and the decision is made for or against one of the parties, solely on the justice or injustice of his position. Under mediation, by contrast, the mediator is not primarily concerned with who is right and who is wrong. What he is looking for is a compromise which will assure peace (however temporary). Usually the stronger party to a dispute under mediation will demand somewhat more than what is just; while the weaker party will be willing to compromise somewhat short of a square deal for himself in order to avoid a long-drawn-out conflict in which he might be altogether annihilated. Appeasement, in other words.

"Appeasement" vs. Justice

The "mediation," or appeasement, attitude (as opposed to an ideal of resolute justice "without fear or favor") has long been a characteristic of legislative bodies, and has perhaps been the dominant influence in the deliberations of administrative agencies. Legislators have been recognized as having special tenderness for local interests, and their giving some ear to popular clamor rather than to the sober contemplation of the long-run interest of the nation as a whole has been accepted as a fact, however deplorable. Up until recently, however, this "mediation," or appeasement, attitude had not made much headway in the federal courts. When Mr. Dooley said that the Supreme Court followed the election returns, his observation was more prophetic than descriptive of conditions at the time he spoke.

This new attitude has recently been making headway in the courts, but it has not yet succeeded in establishing itself in place of the Constitution. If the American people can be awakened to what is going on, probably it will not succeed in doing so. The argument of the "appeasement" philosophy is that political *equality* and economic *inequality* are incompatible. Since every man, no matter how dumb or lazy, now has just as much political power as his more energetic and resourceful neighbor, the numerically strong "underprivileged" (it is argued) are going to use politics to put an end to their economic inequality.

The "appeasers" do not believe it worth while to resist those who demand unearned economic equality, nor to explain to them that equalizing incomes to the ex-

tent of discouraging possessors of superior talents from exercising these talents for increasing national production, will make us all poorer—including those who are poor enough already. Instead, the "appeasers" believe it is more "realistic" to follow the easy formula which says that "the wheel that squeaks the loudest should get the grease." The process of taking more and more from the productive and thrifty to give to the less productive and less thrifty is called "dynamic democracy" or "democracy on the march." Those who sympathize with the process are hailed as "forward looking," while those who question the wisdom of trying to make unequal things equal are anathematized as "legalists" and "reactionaries."

The politicians—(whether they are administrators, legislators, or are seated on the bench) who defend this "dynamic" viewpoint deny—whether consciously or not, that there is such a thing as absolute right and wrong in dealings between people. They are mediators, leaning toward one of the litigants. Instead of unchanging principles of right and wrong, they say, our fundamental law—even the Constitution itself—is just a set of conventional rules which are to be enforced so long as a majority of the people are satisfied with them; but which we should quickly modify when the majority wants (or thinks it wants) something else. These politicians are persuaded that the majority now wants some big changes in the rules for the ownership of property and the distribution of income, and they are proceeding to give the majority those things just as fast as they can. Opponents are advised to accept piecemeal expropriation gratefully, as an alternative to forthright communism. If these changes ruin our economic system and ultimately reduce the standard of living of even our poorest citizens, that is no worry to the appeasement philosophy. By the time the public finds out it has been led down a blind alley, those who led it there will likely all be dead—prior to that time, they will enjoy power flowing from the expropriation of the wealth accumulated by the thrift of others. If the majority doesn't demand changes big enough or fast enough, the "dynamic" politicians whet its appetite by radio, press and movie propaganda and by sample distributions of other people's property and income.

How Court Policy Has Changed

The old Supreme Court, with its adherence to the Constitution and the body of traditional law, stood in the way of "democracy on the march"—hence the scheme of the "realists" to pack it, which strategem later was found to have been unnecessary, as several old judges resigned and it was possible to name "forward looking" jurists to succeed them. The recent wholesale reversal by the new Supreme Court of its previous position on crucial issues, having to do with the security of property and limitation of the functions of the government, sufficiently illustrates what is taking place.

This revolution is having, and will continue to have, a profound effect on the security and the earning power of property entrusted to industrial managements. Hence, managers have a professional obligation to understand this revolution and its implications. There are at least two aspects in which it may be approached, viz., (1) the extent to which industrial managers may find it obligatory and possible to take action to modify a course of events destructive of the property entrusted to their care; (2) the fact that industry cannot in future rely, as it has so largely in the past, for the protection of its income and property on justice obtainable in the courts; in addition it must vigorously defend itself in the "court" of mass public opinion. First, as to the propriety and feasibility of action which industrial managements might take to put the brakes on a movement of such plain anti-social purpose:

Who Corrupts Public Opinion Builds a Frankenstein

In endeavoring to preserve the Constitution and the body of law which are the sole protection of industrial property, managements should at the very least refrain from acting in a manner calculated to foster the substitution of political favoritism for even-handed justice—by courts, by legislators, or by administrators. That is to say: Management should come before the "court" of public opinion, as before any other court, with its own hands scrupulously clean. Management and owners are a numerical minority who will be permitted to retain their function only so long as there is recognition by the courts and an intelligent public that managers and owners further the public interest. When managements misinform and corrupt public opinion, they are cutting the ground right out from under their own feet.

That some business managements are not above such myopic behavior is illustrated by the current ballyhoo against alleged "trade barriers" to trucks and the misuse of such words as "taxes" and "reciprocity" in this connection. How these words are being used to confuse and deceive the public is set forth in detail in a little booklet issued by the Association of American Railroads entitled "Words—Good and Bad." Since any reader of these pages can, probably, secure a copy of this booklet by asking for it, we shall not attempt to describe it further. The use of such a term as "the full dinner pail" to fool the innocent citizen into voting for a high tariff, against his own interest and for the selfish enrichment of certain industrial monopolists, is another example of business' poisoning of the well from which it drinks—a piece of deception on the same ethical level as the parade of such terms as the "forgotten man," the "more abundant life," and "purchasing power for the masses" to induce the bewildered citizen to take control of production out of the hands of producers and put it into that of the politician.

So much for at least one step which management can take against the growing practice of deciding important issues by the equivalent of a show of hands, by

people who do not know the true facts of the cases on which they sit in judgment. Another important approach to this problem consists in the steps which management may take to *get a square deal directly from the public*. Obviously, if the courts, in deciding cases, are going to give greater weight henceforth (as legislatures and administrators have long been inclined to do) to what a majority of the people think they want, rather than to what the informed experience of centuries indicates the long-run public interest (i. e., true justice) to be—then the only way to protect the long-run public interest will be to have a much-better-informed public opinion in future than in the past. As the learned Mr. Woodlock (former Interstate Commerce Commissioner) writes, somewhat pessimistically, in the Wall Street Journal:

"For good or ill the world has passed for the first time on its long career into the hands of the mass-man. That seems to be beyond all doubt. And that means that the demagogue's day is here."

We say that Mr. Woodlock writes pessimistically (though perhaps realistically) because it yet remains to be demonstrated that ordinary people cannot learn or would be unwilling to apply the fundamental rules of right and wrong necessary to their own welfare. They do not have such information now, for one thing, because nobody is taking the trouble, persistently and on a large scale, to give it to them. Neither have they yet had the bitter experience which they certainly will run into if the continued political discouragement of initiative, of excellence, of hard work, and of thrift turns out *not* to be the path to the "more abundant life" for all. Our system of law and our Constitution represent the cumulative wisdom of many generations of devoted and learned men. Such a body of knowledge is much more likely to be an accurate guide to a prosperous society than the shifting hunches of a "demagogued" multitude. This country had a growth in prosperity and population unparalleled in history under the regime of law which the "dynamic democrats" now propose to modify or supplant. In Soviet Russia, where the politician getting his authority from the uninformed masses has been in supreme power for a generation, the standard of living is lower today even than the miserable level it attained under the czars.

The Common Sense of the Common Man

Surely these things are not too complex for the understanding of the well-meaning common man in America, if patriotic citizens who know the truth will take the trouble to inform him, persistently and in simple language. Surely also, such instruction will be aided by the severe troubles into which our economy will fall if discouragement of initiative, of intelligence, of hard work, and of thrift is persisted in.

Dean Roscoe Pound, former head of the Harvard Law School and one of the nation's great legal scholars, has an article in the March issue of the American Bar Association Journal which makes significant reading for all policy-making executives and public relations officers—as indicating the grave and imminent danger which now besets the American system of law and of property. Dean Pound is no alarmist or "old guard" propagandist—quite the contrary. When he warns us that persons holding predominant political power in this country are following a path which threatens to turn this nation into an out-and-out autocracy, his warning deserves the same attention that would be given to a competent bridge engineer, if he said that a heavily-traveled bridge was about to collapse. It does not seem likely that the well-meaning common man in America would want to "set up anew the administrative absolutism of the later Roman empire, of the French monarchy of the ancient regime, and of the administrative tribunals of the Tudor and Stuart kings"—yet that is the corral toward which, as Dean Pound clearly demonstrates, all of us are rapidly being herded.

The common man needs some simple facts about fundamental issues from people who are honestly trying to help him—not ruining his future as a stepping stone to the enhancement of their own power. Such information would be such a novelty to him that it might be surprisingly effective. Anyhow, is there any other alternative? A great broadening and intensification of management's study of current economic and political events—and of personnel, educational and public relations programs, geared to the needs which realistic research discloses—seem to be "indicated," as the doctors say.

Post-War "Planning"

After eight years of unprecedented outlays on public works and steadily mounting federal deficits under conditions of peace—and present and forthcoming gigantic defense outlays—the federal government is now making its plans for the return of peace. And what is the nature of its plans?—Why *just more and more billions for public works.*

Elementary arithmetic demonstrates even to the least gifted that this spending in excess of income cannot go on forever. There is bound to be a crack-up, and, doubtless, the advocates of limitless federal spending for public works are fully aware of that fact; and look forward with anticipation to the debacle. That donkey, private enterprise, will then yield up the ghost under an insuperable burden of taxation—and the hopelessness that he ever will be allowed an adequate diet. His "failure" will give the government the excuse to socialize industry—a mandate it could never get from the people at the polls, if the question were put to them squarely and honestly. We shall then have the same kind of totalitarian state right here at home which we are spending billions to keep Hitler from fastening upon the Europeans.

The public works being planned for the post-war

period will, undoubtedly, include a lot of superhighways and waterways—calculated to divert still more railroad traffic and destroy railroad jobs; and they will come at a time when the railroads and every other form of transportation will already be suffering from traffic inadequate to provide work for many of their employees. And, just for good measure, just about that time, the St. Lawrence Seaway will be completed —if the Administration has its way.

It would be possible to be pretty pessimistic at the outlook, if it were not for the fact that the public works spenders are so cocksure and so brazen. They do not seem to take into account the possibility that defense taxation may awaken a respect for economy in the minds of many people who heretofore have believed that only the rich pay taxes. Elections have not *yet* become a thing of the past in this country—and, quite likely, the old saying about "enough rope" still holds good.

Anti-Social Policies in Transportation

The for-hire motor carriers persuaded Congress in 1935 that it was in the public interest that they be regulated. At the time many shippers were skeptical, fearful that this new transportation agency would be put in a "straight jacket." They were led, however, to give their support to this measure because of assurances that, under it, further development of truck transportation would conform with recognized economic principles.

The 1935 Act set up an elaborate system of regulation which required the Interstate Commerce Commission to recognize and preserve "inherent advantages"; promote safe, adequate, economical, and efficient service and foster sound economic conditions; encourage reasonable charges, without discrimination, prejudice, or advantage, or unfair or destructive practices—all to the end of developing, co-ordinating, and preserving a national transportation system adequate to the nation's needs.

New and improved methods, if economic principles are not violated, lead inevitably to lower costs; and to consequent lower prices. Shippers using common carrier motor service have found, however, that the net result of six years' administration of this and other transportation law has been to increase their charges approximately 10 per cent, and even more in some instances, on traffic which could not escape to private transport or disappear altogether by decentralization and improved technical processes.

Motor transportation, as far as rates are concerned, *is* in a "straight jacket." There has been an increase in for-hire motor carrier facilities of at least 50 per cent—an increase resulting not from true economy but from the attractions of a monopolistic rate level. The 1935 Act, as so far administered, has fostered the sale of a multitude of motor trucks. It has not fostered economical transportation either by highway or by railway.

The Defense Advisory Commission predicts that **total 1942 traffic of all transport agencies will probably be the largest ever handled, but that railroad business will be only three-fourths as great as it was in 1929.** This prediction implies on its face that there is to be a further enormous increase in transportation facilities other than railroads.

There is nothing tangible at present to indicate that the Interstate Commerce Commission contemplates any action that is sufficiently drastic even to check, much less reverse, this trend so destructive to genuine economy in transportation.

Now the for-hire motor common carriers and freight forwarders have gone cahoots on an elaborate system of forwarder regulation, similar to present motor carrier regulation, that would legalize a further duplicate system of transportation facilities; and which is designed to enable these combined facilities greatly to extend their present "pick and choose" practices at the expense of the public interest.

It is significant, that the House Committee seems to have received this bill with some reservations.

It is also significant that the majority of the Interstate Commerce Commission does not endorse this contemplated further expansion of facilities. Only recently in another context (the Kansas City Southern Transport Company application), the Commission stated in substance that it was unsound to deprive the railroads of their traffic in the manner being contemplated by the proposed forwarder set-up. It said also that to deprive them of this traffic did not relieve them from the obligation under the law to maintain service at each and every point reached by them regardless of the fact they have been deprived of much of the revenue to support such extensive service. It now says to the House Committee that "whatever useful purposes forwarders perform could be performed by the carriers themselves through an expansion of their operations, . . ."

It is, therefore, to be hoped:

1. That Congress and the Commission will realize before it is too late that much of what is being advocated by the for-hire truckers and forwarders is in their own narrow selfish interest and not in the public interest.

2. That government and the interested carriers will recognize that a revision of the freight rate structure to reflect efficient and economical operation by each form of transportation is the only principle by which transportation facilities may soundly be controlled.

Otherwise we shall have an enormous and unnecessary surplus of transportation facilities by the end of this war, which will make government ownership and operation of all of them hard to avoid. The cost to the public in taxes and/or in unnecessary increases in freight charges will be staggering; and untold millions of transportation investments will lose their value. Is the continued enrichment of a few politically-astute self-seekers worth such gigantic sacrifices by all the rest of the public?

National Defense Boosts Railway Buying to $1,160,000,000 in 1940

Final summaries show every state sharing in carrier spending—$114,371,000 of materials and equipment in January, 1941

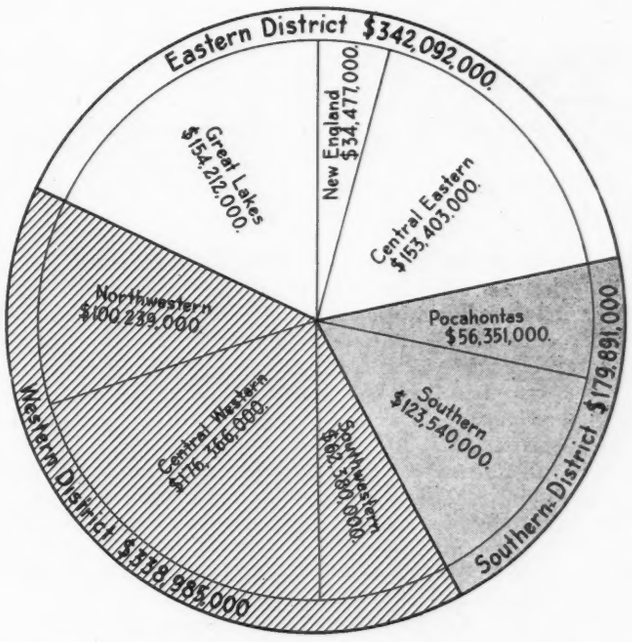
IN this review the *Railway Age* presents its final summaries of railway buying for the year 1940 and its first totals of railway purchasing for this year. The final figures for 1940, while requiring only slight revisions in previous estimates,* fix the values more conclusively and present them in more detail. The stimulating effect of national defense programs on carrier spending are clearly reflected in the totals which are now available.

Buying for rail transportation in the United States amounted to approximately $1,160,266,000 in 1940 and totaled approximately $114,371,000 in the first month of this year, according to calculations which have just been completed. The totals for 1940, as compiled by the *Railway Age,* include $855,973,000 of materials, supplies and fuel, exclusive of equipment, purchased by the Class I trunk lines; $33,805,000 of materials and fuel, exclusive of equipment, purchased by short lines and switching and terminal companies not controlled by Class I trunk lines; $11,117,000 of materials, exclusive of equipment, purchased by the Pullman Company for rail line operations and $8,244,000 of materials, exclusive of equipment, purchased by 22 private car line companies from commercial firms for their rail line operations. It also includes $251,127,000 of new locomotives and cars ordered during the year from equipment builders, this total including the locomotives and cars ordered by industries as well as by railroads.

The figures exclude materials and equipment purchased by contractors for railway construction projects and also expenditures made by the railroads for heat, light, electric energy, land and miscellaneous services. They also exclude purchases made in this country by railroads of Canada, Mexico and territories of the United States.

Annual Purchases—Supplies and Equipment—12 Months

	Materials received from mfrs. (000)	Equipment ordered from mfrs. (000)	Total from mfrs. (000)	Fuel (000)	Total including fuel (000)
		Class I Roads			
1929	$991,795	$397,121	$1,388,916	$336,805	$1,725,721
1930	727,223	146,471	873,694	308,277	1,181,971
1931	451,651	28,873	480,524	243,349	723,873
1932	268,100	2,623	270,723	177,000	447,723
1933	276,846	5,857	282,703	180,904	463,607
1934	395,012	66,850	461,862	209,488	671,350
1935	365,830	35,696	401,526	228,720	630,246
1936	555,841	222,594	778,435	266,463	1,044,898
1937	697,402	173,320	870,722	282,366	1,153,088
1938	343,033	74,006	417,039	239,778	656,817
1939	519,494	188,838	708,332	257,879	966,211
1940	582,296	251,127	833,423	273,677	1,107,100
		All Railroads			
1936	$573,569	$222,594	$796,163	$275,637	$1,071,800
1937	718,828	173,320	892,148	292,026	1,184,174
1938	357,192	74,006	431,198	247,124	678,322
1939	535,775	188,838	724,613	269,351	993,964
1940	605,460	251,127	856,587	284,318	1,140,905
		Railroads and Private Car Lines			
1939	$556,404	$188,838	$745,242	$269,351	$1,014,593
1940	624,821	251,127	875,948	284,318	1,160,266



Railway Purchases of Material and Fuel by Regional Division in 1940. Represents Expenditures by the Railroads in Each Region, Not Value of Material Produced in Each Region

The totals for 1940 are based on extensively classified statements of purchases reported to the *Railway Age* by railroads operating more than 97 per cent of the Class I trunk line mileage, together with special reports made to this paper by approximately 200 short lines and terminal companies and this paper's revised records of orders placed by the railroads and industries for new cars and locomotives. Materials purchased represent the delivered cost of materials received by the railroads in the calendar year from commercial firms while the purchases of equipment represent the orders for cars and locomotives placed with builders, including Pullman cars, and are valued on the basis of the average price of each type of equipment. Materials and equipment for locomotives and cars to be built in railway shops are included in the materials reported by the railroads, except where otherwise noted.

876 Million from Manufacturers

As finally determined, the purchases made last year for rail transportation in this country included $624,821,000 of materials received from manufacturers and $251,127,000 of new locomotives and cars ordered from manufacturers, or a total of $875,948,000 of materials and equipment from manufacturers. The remaining $284,318,000 was spent for fuel. The materials received from manufacturers last year by all the railroads and

* *Railway Age* of January 4, 1941.

reporting private car lines were $68,417,000, or 23 per cent larger than the corresponding purchases by all railroads in 1939 and the value of new locomotives and cars ordered from manufacturers by all the same carriers in 1940 was $62,289,000 or 33 per cent, larger than the corresponding contracts in 1939, while the combined purchases of materials and equipment, exclusive of fuel, made by the same carriers from manufacturers last year was $130,706,000, or 17 per cent, more than the corresponding authorizations in 1939. Taking fuel into consideration, the combined purchases made by all the railroads last year were larger by $145,673,000, or 14 per cent, than the corresponding buying in 1939. The combined purchases were about equal to the corresponding purchases in 1930.

Selected Switching and Terminal Companies

	1939	1940 Trunk Lines	Increase	Per cent increase
Alton & Sou.	138,285	178,855	40,570	29
Belt Ry. of Chi.	401,401	464,801	63,400	15
B. & O. C. T.†	820,397	1,091,902	271,505	33
Chi. & W. Ind	489,246	541,526	52,280	11
Kans. City Term.	587,325	644,053	56,728	10
Peo. & P. U.	273,716	278,233	4,517	2
Term. of St. L.	974,329	1,140,168	165,839	17
Bing. & Gar.	121,878	129,623	7,745	6

† Included in B. & O.

The all-railroad (Class I, short lines and switching roads) total for 1940 included approximately $215,282,000 of bituminous coal, as compared with $204,240,000 in 1939; approximately $57,864,000 of fuel oil, as compared with $53,170,000 in 1939; and $4,570,000 of gasoline, as compared with $4,363,000 in 1939.

Forest Products Almost 90 Million

Purchases of forest products totaled approximately $86,826,000 in 1940, as compared with $74,976,000 in 1939. This total included $51,257,000 of cross ties, as compared with $43,073,000 in 1939; $5,070,000 of switch and bridge ties, as compared with $4,702,000 in 1939, and $27,996,000 of timber and lumber, as compared with $24,856,000 in 1939. Approximately $2,150,000 of the money spent for forest products last year went for poles, posts and piling.

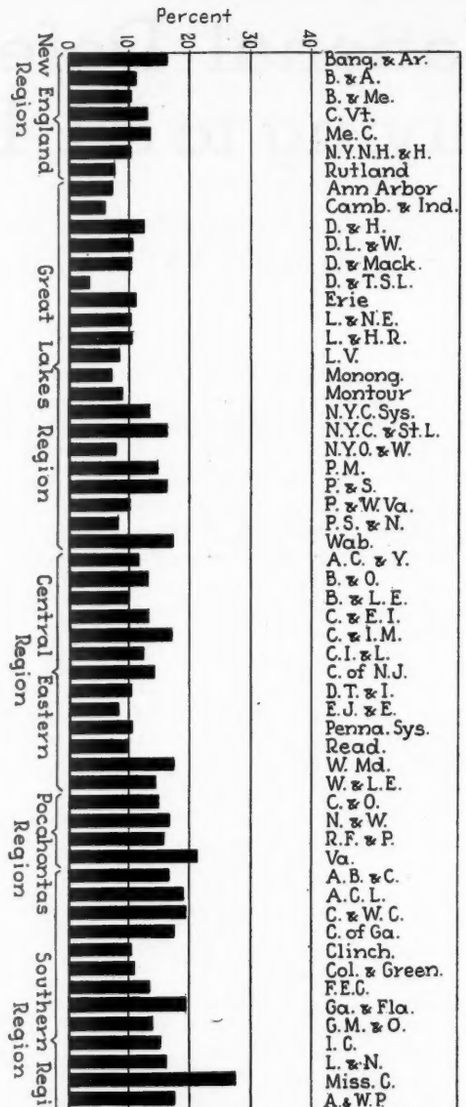
Purchases of materials of iron and steel, exclusive of iron and steel for new equipment, totaled $331,278,000,

Partial Distribution of Railway Purchases by States—1940 Fuel and Equipment*

Alabama	$26,214,000	Nebraska	$3,723,000
Arizona	491,000	Nevada	66,000
Arkansas	4,755,000	New Hampshire	1,967,000
California	44,487,000	New Jersey	18,756,000
Colorado	15,533,000	New Mexico	6,070,000
Connecticut	6,202,000	New York	67,637,000
District of Columbia	419,000	North Carolina	1,379,000
Delaware	2,002,000	North Dakota	700,000
Florida	4,489,000	Ohio	58,892,000
Georgia	4,052,000	Oklahoma	7,146,000
Idaho	2,827,000	Oregon	15,420,000
Illinois	116,635,000	Pennsylvania	192,930,000
Indiana	63,090,000	Rhode Island	980,000
Iowa	4,241,000	South Carolina	1,969,000
Kansas	8,407,000	South Dakota	270,000
Kentucky	17,643,000	Tennessee	10,888,000
Louisiana	6,011,000	Texas	15,555,000
Maine	987,000	Utah	4,601,000
Maryland	8,175,000	Vermont	562,000
Massachusetts	9,385,000	Virginia	9,817,000
Michigan	12,972,000	Washington	10,945,000
Minnesota	13,270,000	West Virginia	44,672,000
Mississippi	2,973,000	Wisconsin	12,363,000
Missouri	31,027,000	Wyoming	2,875,000
Montana	5,618,000	Foreign (Canada, etc.)	3,772,000

* As reported by 90 Railroads operating 222,170 miles of line.

Relation of Purchases of Materials (Exclusive of Fuel and Equipment) in 1940 to Annual Operating Revenues



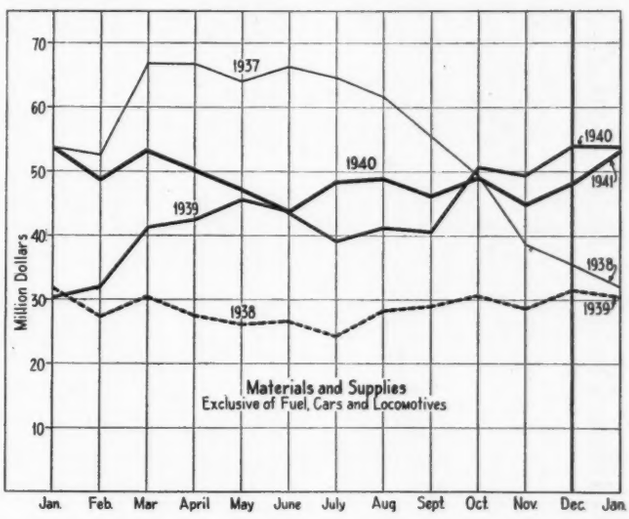
as compared with $288,953,000 in 1939, and only $157,763,000 in 1938. In this total was $46,635,000 of delivered rail, as compared with $39,390,000 of delivered rail in 1939, and only $24,355,000 of delivered rail in 1938. The rail purchased in 1940 included some second hand rail. Purchases of wheels, tires and axles last year by all the railroads totaled $28,489,000, as compared with $26,225,000 in 1939. Switches, frogs, and crossings totaled $14,104,000, as compared with $10,505,000 in 1939, and $37,742,000 was expended for track fastenings, as compared with $36,505,000 in 1939.

Iron and steel purchases made by the Class I railroads and the Short Lines last year included $26,247,000 of bar and sheet steel, as compared with $22,588,000 in 1939; approximately $17,117,000 of car and locomotive forgings, as compared with $15,327,000 in 1939; and $5,149,000 of boiler tubes, as compared with $4,559,000 in 1939. Purchases of signal and interlocking material totaled $22,217,000, as compared with $15,271,000 in 1939, while $44,389,000 was spent for locomotive and car castings. During 1940, the Class I railroads and the Short Lines also purchased approximately $9,754,000 of track and roadway tools, excluding hand tools, $5,497,000 of iron and steel pipe and fittings and $4,301,000 of hardware, including approximately $2,500,000 of welding supplies. Purchases of air brake materials totaled approximately $14,494,000, while $13,196,000 was spent for special appliances for locomotives.

Last year's purchases included approximately $8,100,000 of lubricating oil, $860,000 of illuminating oil, $2,400,000 of waste for journal packing and more than $2,000,000 of boiler feed water chemicals. The purchases also included approximately $2,250,000 of oxygen for welding and cutting. In addition, approximately $21,589,000 was spent for journal bearings and other materials of copper and brass, while approximately $15,245,000 was spent for electrical materials. Expenditures for stationery and printing totaled approximately $15,464,000 and expenditures for commissary supplies amounted to $17,290,000, while expenditures for rubber, leather and allied products totaled $7,072,000.

January Purchases—Materials and Supplies

	Fuel (000)	Rail (000)	Crossties (000)	Other Material (000)	Total (000)	Total less Fuel (000)
1929 ...	$31,275	$14,400	$9,819	$57,006	$112,500	$81,225
1930 ...	31,235	9,215	10,375	61,675	112,500	81,265
1931 ...	23,280	5,004	7,953	34,763	71,000	47,720
1932 ...	17,500	1,652	2,400	19,948	41,500	24,000
1933 ...	16,083	420	1,945	16,555	35,003	18,920
1934 ...	17,320	1,542	2,063	23,873	44,798	27,478
1935 ...	20,800	965	2,080	21,605	45,450	24,650
1936 ...	21,859	1,107	3,027	29,656	55,649	33,790
1937 ...	26,054	3,128	3,923	46,862	79,967	53,913
1938 ...	22,198	1,830	2,867	26,225	54,120	31,922
1939 ...	23,377	483	2,445	27,374	53,679	30,302
1940 ...	24,978	3,529	4,128	45,593	78,228	53,250
1941 ...	26,720	2,472	3,235	47,545	79,972	53,252

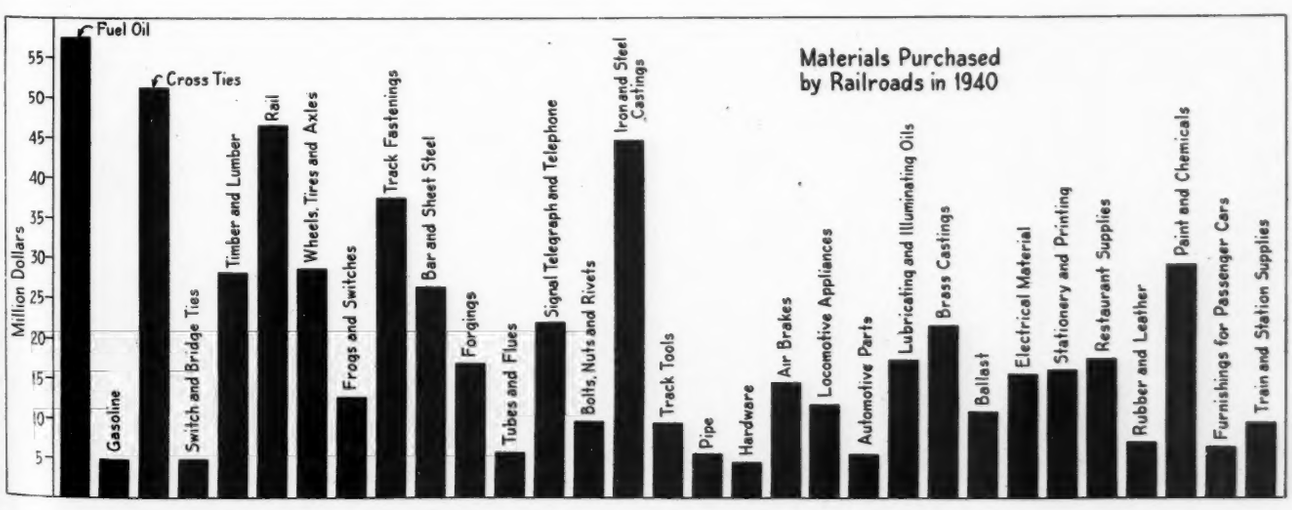


Month to Month Trend of Purchases of Material from Manufacturers 1937 to 1941

272 Million for Roadway

Based on special information furnished by 33 roads, approximately $271,557,000, or 32 per cent, of the purchases of fuel and material made by the railroads in 1940 were for maintenance of way and structures, $223,480,000, or 25 per cent, were for maintenance of equipment, $321,765,000 or 35 per cent were for transportation and $72,975,000, or 8 per cent, was for materials used by all the departments. The materials for transportation consisted largely of fuel for locomotives.

The railroads last year purchased directly from producers and distributors approximately 89,500,000 net tons of bituminous coal, 1,070,000 net tons of anthracite coal, 67,000,000 barrels of fuel oil and 56,200,000 gal. of gasoline. The purchases included approximately



Partial Distribution of Railway Purchases in 1940—Excludes Material in New Cars and Locomotives

Classified Purchases, Exclusive of Equipment, by Railroads in 1940—Partially Estimated

	New England Region	Great Lakes Region	Central Eastern Region	Pocahontas Region	Southern Region	Northwestern Region	Central Western Region	Southwestern Region	Class I 1940	Other Roads 1940	All Roads 1940	All Roads 1939	All Roads 1938	All Roads 1937
FUEL														
Bituminous coal	$12,817,449	$48,393,217	$43,754,814	$10,711,145	$34,844,195	$25,666,235	$23,431,815	$5,836,252	$205,455,122	$9,827,031	$215,282,153	$204,240,061	$186,472,431	$233,550,850
Anthracite coal	91,621	1,615,605	1,740,299	1,026	13,274	35,087	16,965	3,953	3,517,830	51,841	3,569,671	4,949,046	3,395,183	3,980,174
Fuel oil	882,972	895,521	1,111,336	57,225	1,827,593	4,865,059	35,636,051	11,900,656	57,176,413	687,605	57,864,018	53,170,191	54,635,454	67,175,860
Gasoline	275,620	817,038	656,153	153,131	539,167	605,227	1,170,304	288,799	4,505,439	65,057	4,570,496	4,363,040	4,160,351	5,437,557
All other	50,473	196,161	367,556	231,223	249,817	629,384	1,236,918	60,660	3,022,192	9,614	3,031,806	2,628,867	2,620,633	3,055,127
Total fuel	14,118,135	51,917,542	47,630,158	11,153,750	37,474,046	31,800,992	61,492,053	18,090,320	273,676,996	10,641,148	284,318,144	269,351,205	251,284,052	303,199,568
FOREST PRODUCTS														
Cross ties	1,392,689	8,055,202	6,983,797	1,561,673	10,339,187	8,801,707	7,906,006	2,955,920	47,996,181	3,260,868	51,257,049	43,073,943	40,380,037	61,577,267
Switch and bridge ties	118,859	593,744	720,192	235,175	1,341,991	728,576	419,655	417,190	4,575,382	495,017	5,070,399	4,702,311	4,854,728	7,069,650
Timber and lumber	1,046,296	4,679,219	4,203,317	1,270,437	5,720,436	3,880,618	4,372,330	2,679,123	27,851,776	144,604	27,996,380	24,856,179	13,059,309	36,351,772
Other forest products	118,518	148,538	119,247	212,339	385,958	357,334	946,142	214,842	2,502,918	.....	2,502,918	2,344,082	2,141,136	3,782,820
Total forest products	2,676,362	13,476,703	12,026,553	3,279,624	17,787,572	13,768,235	13,644,133	6,267,075	82,926,257	3,900,489	86,826,746	74,976,515	60,435,210	108,781,509
IRON AND STEEL PRODUCTS														
Steel rail (new & S. H.)	1,294,841	6,441,938	6,881,839	2,862,732	6,022,951	5,550,357	12,680,363	3,680,260	45,415,281	1,219,654	46,634,935	39,390,367	24,355,109	45,700,532
Wheels, axles and tires	724,540	6,151,322	4,560,261	1,415,931	4,196,144	2,612,020	5,748,364	2,718,372	28,126,954	321,960	28,448,914	26,225,046	16,623,328	31,202,594
Frogs, switches and crossings	637,015	2,535,067	2,613,798	799,722	1,396,352	951,757	2,424,285	880,850	12,238,846	1,865,395	14,104,241	10,505,833	5,628,149	14,015,660
Trk. fastenings, trk. bolts, spikes, etc.	1,226,924	7,261,676	6,754,189	2,845,485	4,016,445	4,919,449	6,250,322	3,506,696	36,781,186	960,335	37,741,521	36,505,344	17,569,897	37,224,705
Iron bridges, turntables and struc.	141,816	247,341	282,765	411,989	418,644	626,892	880,144	124,162	3,133,753	74,798	3,208,551	3,078,551	2,582,514	4,227,359
Bar iron and steel, sheets, etc.	370,564	3,179,213	8,944,448	2,951,428	3,679,932	1,772,133	3,342,249	1,754,428	25,994,395	253,249	26,247,644	22,588,686	7,658,838	31,896,103
Forgings, etc. for locomotives	110,739	304,568	486,553	105,265	373,800	243,509	590,810	234,051	2,449,295	248,695	2,697,990	2,338,262	1,480,907	4,112,945
Car forgings, shapes, etc.	93,095	3,396,363	1,961,448	1,560,870	1,424,159	799,376	4,642,282	252,627	14,130,220	289,453	14,419,673	12,989,418	3,494,554	17,611,581
Flues, tubes and superheat	268,558	1,643,126	740,919	317,540	837,456	357,294	488,194	332,427	4,985,514	163,866	5,149,380	4,559,164	2,054,057	5,904,196
Interlocking and signal material	831,674	3,090,818	3,092,403	1,959,414	2,214,596	1,302,357	2,631,229	1,399,524	16,522,015	1,697,928	18,219,943	13,479,137	7,470,958	16,573,281
Telegraph and telephone material	146,895	261,273	621,923	401,173	253,694	332,001	1,565,563	209,313	3,791,835	205,863	3,997,698	1,792,724	1,903,439	2,681,781
Bolts, nuts, washers, etc.	243,776	2,292,509	2,057,889	588,323	1,172,993	795,832	1,682,639	565,606	9,399,567	129,149	9,528,716	9,649,404	3,850,888	12,153,770
Springs	87,265	511,229	996,780	371,187	402,815	408,330	437,828	591,659	3,807,093	142,743	3,949,836	3,389,650	1,784,149	3,954,634
Loco. and car castings, etc.	854,401	7,825,708	9,011,760	2,619,883	7,420,728	3,968,279	5,605,942	5,271,122	42,577,823	1,811,765	44,389,588	44,021,517	23,201,190	64,323,703
Track and roadway tools, etc.	455,690	851,596	697,245	411,425	1,255,399	888,483	4,651,491	371,696	9,583,025	171,485	9,754,510	5,799,123	3,638,670	6,867,111
Machinery and repair parts	155,274	697,685	661,723	215,800	783,272	578,408	664,302	464,616	4,221,080	135,597	4,356,677	2,897,271	2,509,852	5,367,478
Boilers and Miscellaneous	402,264	2,357,894	1,258,321	614,691	1,142,405	858,515	1,470,625	479,354	8,584,069	220,291	8,804,360	7,600,334	6,341,577	10,039,758
Pipe, iron and steel and fittings	204,167	741,413	1,146,832	376,935	850,570	607,762	998,434	389,390	5,315,503	181,945	5,497,448	5,876,601	2,780,474	7,164,146
Hardware	105,237	394,625	888,735	162,997	921,561	702,123	615,677	303,312	4,094,267	206,923	4,301,190	4,158,416	2,245,301	5,015,093
Hand and small machine tools	331,644	1,857,299	1,213,681	415,878	829,578	362,805	1,231,628	404,132	6,646,645	58,454	6,705,099	6,515,641	3,432,034	8,272,770
Air brake material	171,654	1,820,278	3,305,393	2,823,659	1,748,706	1,196,134	2,165,247	929,259	14,160,330	334,089	14,494,419	9,180,561	6,971,792	12,119,360
Appliances for locomotives	389,339	2,311,690	2,499,482	738,265	2,180,462	1,314,550	2,296,080	1,300,359	13,030,227	165,940	13,196,167	10,904,587	6,586,156	13,781,679
Automotive materials	306,965	893,403	619,600	72,501	300,252	890,479	1,700,139	617,863	5,401,202	28,044	5,429,246	5,475,766	3,599,649	5,629,235
Total iron and steel products	9,554,337	57,068,034	61,297,987	25,043,093	43,842,914	32,038,845	64,763,837	26,781,078	320,390,125	10,887,621	331,277,746	288,953,403	157,763,482	365,344,474
MISCELLANEOUS														
Cement	26,025	1,032,481	148,911	101,770	119,140	133,303	356,134	141,136	2,058,900	6,695	2,065,595	1,887,386	1,178,909	1,959,895
Lubricating and illuminating oils, etc.	792,467	3,027,649	2,699,637	1,128,525	2,442,473	2,272,779	3,146,978	1,355,205	16,865,713	772,056	17,637,769	17,163,850	14,810,462	19,969,601
Non-ferrous metal	1,076,529	5,923,772	2,716,111	783,594	3,578,030	2,295,106	3,263,337	1,530,844	21,167,323	422,435	21,589,758	20,851,744	14,848,136	28,272,450
Ballast	250,710	1,754,853	2,071,017	751,023	2,278,292	470,987	2,189,872	1,043,751	10,810,505	17,448	10,827,953	9,426,750	7,496,719	11,386,362
Electrical materials	1,086,995	1,164,233	4,348,887	1,047,785	1,638,093	1,093,975	1,825,567	692,423	12,897,958	2,347,524	15,245,482	12,534,154	8,649,804	17,812,359
Stationery and printing	1,197,982	2,109,500	3,346,675	910,120	2,154,595	1,281,007	2,683,372	1,105,203	14,788,454	675,897	15,464,351	14,675,895	13,471,311	17,051,954
Commissary supplies	977,187	2,566,369	3,274,595	332,035	2,136,340	1,959,219	4,764,045	1,279,628	17,289,418	271	17,289,689	16,434,092	16,008,357	20,028,189
Rubber and leather goods	198,186	1,320,145	1,450,228	375,225	558,647	669,369	1,553,803	288,171	6,413,774	658,416	7,072,190	7,055,428	4,479,888	8,369,141
Glass, paint, chemicals, etc.	1,182,681	3,625,014	6,248,277	1,617,365	3,952,307	3,112,671	7,028,583	1,961,086	28,727,984	774,265	29,502,249	28,799,720	21,440,099	32,903,739
Arch brick for locomotives	139,104	184,778	511,731	270,007	376,307	174,277	570,198	250,068	2,476,470	88,437	2,564,907	2,678,352	2,337,406	3,052,705
Passenger car trimmings	248,636	925,551	1,320,386	499,416	1,139,907	661,309	1,116,872	349,759	6,261,836	344,188	6,606,024	5,862,153	3,815,501	10,483,164
Loco., train and station supplies	431,502	2,118,142	2,005,383	280,241	1,137,004	872,973	1,534,653	658,998	9,038,896	935,809	9,974,705	8,726,276	6,273,512	10,758,810
All other materials	520,553	5,997,752	2,307,186	3,778,345	2,924,886	7,634,242	6,432,950	586,197	30,182,111	1,332,093	31,514,204	25,748,856	20,023,434	30,647,574
Total miscellaneous	8,128,557	31,750,239	32,449,024	11,875,451	24,436,021	22,631,217	36,466,364	11,242,469	178,979,342	8,375,534	187,354,876	171,844,656	134,833,538	212,695,943
GRAND TOTAL	34,477,391	154,212,518	153,403,722	51,351,918	123,540,553	100,239,289	176,366,387	62,380,942	855,972,720	33,804,792	889,777,512	805,125,779	604,316,282	990,021,494
Per cent of operating revenues	18.6	19.4	16.1	14.1	18.8	16.6	24.1	17.5	19.9	.....	.....	19.6	16.3	23.4
GRAND TOTAL—1939	32,367,342	132,117,125	125,231,183	42,740,376	108,099,499	92,455,449	172,530,179	64,832,208	770,373,361	34,752,418				
Per cent of operating revenues	18.0	18.3	15.2	17.7	21.1	20.1	24.5	18.7	19.6	.....				
GRAND TOTAL—1937	39,195,634	165,487,566	171,242,975	44,666,587	117,124,609	116,248,967	227,773,272	77,195,894	958,935,504	31,085,990				
Per cent of operating revenues	21.6	21.6	19.7	17.7	22.7	24.4	31.2	20.2	23.0	.....				

52,000,000 cross ties, 146,000,000 bd. ft. of switch and bridge ties and 735,000,000 bd. ft. of timber and lumber, or a total of 881,000,000 bd. ft. of timber and lumber, excluding cross ties and miscellaneous timber not purchased on a bd. ft. basis. The delivered rail amounted to 1,110,000 gross tons. The purchases made directly by the railroads last year also included approximately 1,060,000 bbl. of cement, 15,500,000 cu. yd. of ballast, over 2,000,000 rods of fence wire, approximately 34,200,000 gal. of lubricating oil, approximately 13,800,000 gal. of illuminating oil, approximately 33,200,000 lb. of waste for journal packing and approximately 272,000,000 cu. ft. of oxygen for welding.

Western Roads Large Buyers

Materials and fuel, exclusive of equipment, purchased by Class I trunk lines of the Eastern district, including the New England lines, totaled $342,094,000, or 40 per cent of the total last year, and the purchases of the trunk lines in the Western district amounted to $238,986,000, which was 39.6 per cent of the total. Com-

Purchases from Commercial Firms by Short Lines and Switching and Terminal Companies and Others in 1940*

	Fuel	Other Materials	Total
Akron & Barberton Belt	$23,365	$26,323	$50,355
Allegheny & South Side	3,383	6,747	10,130
Aliquippa & Southern	81,277	293,919	443,321[1]
Apache	19,849	11,098	30,947
Atlanta & St. Andrews Bay	59,670	136,989	196,659
Atlantic & Carolina	5,350	2,400	7,750
Atlantic & Western	4,974	11,096	16,070
Atlantic & Yodkin	55,942	87,977	142,919
Alton & Southern	109,084	178,855	287,939
Balt. & Ohio Chi. Term.	553,415	1,091,902	1,646,438
Bath & Hammondsport	2,375	3,527	5,902
Bauxite & Northern	1,610	4,176	5,786
Birmingham Southern	32,462	123,094	238,683[2]
Brooklyn Eastern Term.	62,177	5,531	67,708
Buffalo Creek & Gauley	17,723	43,900	61,623
Belt of Chicago	519,366	464,801	984,167
Carrollton	2,314	2,116	4,430
Central Indiana	5,349	17,572	22,921
Chattahoochee Valley	12,359	19,007	31,366
Chicago & Calumet River	1,481	869	2,350
Chicago, Attica & Southern	32,735	34,657	67,392
Chicago Short Line	29,991	2,700	32,691
Chicago, Springfield & St. Louis	15,008	7,649	22,657
Chicago & Western Indiana	154,128	541,526	695,654
Chicago, West Pullman & Sou.	61,167	80,048	141,215
Cincinnati Union Terminal	148,946	387,040	536,498[3]
Colorado & Wyoming	87,950	140,366	282,564[4]
Columbia, Newberry & Laurens	34,238	69,340	103,578
Crystal River & San Juan	1,868	3,348	5,216
Danville & Mount Morris	2,953	15,495	18,448
Dardanelle & Russellville	2,599	1,512	4,051
Dav. Rock Is. & Nor. West.	1,462	19,582	21,044
Delaware & Northern	6,943	15,182	22,125
Des Moines Union	92,441	47,766	323,501[5]
Detroit Terminal	107,099	56,535	163,634
Donora Southern	24,767	85,484	203,634[6]
Duluth & Northeastern	10,573	20,218	30,791
Durham & Southern	6,300	91,464	97,764
East Erie Commercial	3,052	5,888	44,940[7]
Fernwood, Columbia & Gulf	10,249	24,613	34,862
Flemingsburg & Northern	1,004	1,321	2,325
Galveston, Houston & Henderson	33,954	89,356	123,310
Galveston Wharf	19,846	111,971	131,817
Genesee & Wyoming	11,840	21,166	47,405[8]
Ga., Ashburn, Sylvester & Camilla	7,301	7,649	14,950
Georgia Northern	17,289	16,996	34,285
Great Western (Denver)	11,125	49,472	75,262[9]
Greenville & Northern	2,988	2,989	5,977
Gulf & Northern	3,433	3,072	6,505
High Pt., Thomasville & Denton	13,736	29,584	43,320
Illinois Northern	39,998	74,332	114,330
Interstate (Va.)	59,743	153,583	214,624[10]
Ironton (Pa.)	11,287	287	11,574
Jacksonville Terminal	90,736	420,531	511,267
Johnstown & Stony Creek	2,711	7,092	9,803
Kentucky & Tennessee	6,740	15,609	22,349
Kansas City Terminal	263,824	644,053	907,877
Lake Champlain & Moriah	19,919	18,355	142,623[11]
Lake Superior Terminal	48,974	26,426	75,400
Longview, Portland & Northern	20,881	3,100	61,019
Lorain & Southern	1,672	643	2,315
Lowville & Beaver River	3,545	4,910	8,455
Magma Arizona	6,604	8,378	14,982
Manistee & Northeastern	13,597	34,686	48,283
Manufacturers Junction	4,000	15,420	19,420
Manufacturers (St. Louis)	23,910	30,327	380,483[12]
Marianna & Blountstown	2,684	818	3,502
Maryland & Pennsylvania	24,949	101,154	126,103
Midland Terminal	62,965	74,514	137,379
Minn., Northfield & Sou.	68,453	66,482	200,078[13]
Minnesota & International	76,182	7,085	83,267
Mississippi & Skuna Valley	6,972	16,544	23,516
Monongahela Connecting	116,480	372,475	773,205[14]
Montana, Wyoming & Southern	4,298	19,289	23,587
Morehead & North Fork	1,528	5,490	7,018
Nevada Copper Belt	2,168	2,500	4,668
Nevada Narrow Gauge	4,423	107,286	111,709
Newburgh & South Shore	71,570	74,737	877,120[15]
New Orleans Terminal	92,911	90,621	183,532
New York & Long Branch	8,092	111,637	119,729
New York Dock	37,875	26,652	64,527
North Louisiana & Gulf	7,735	19,413	27,148
Northern Pacific Term.	87,593	148,314	361,625[16]
Oregon & Northwestern	32,459	24,971	57,430
Oregon, California & Eastern	43,056	41,432	84,488
Pacific Coast (Wash.)	15,100	39,719	54,819
Pacific Coast (Calif.)	1,526	45,670	23,598
Peninsula Terminal	2,552	266	2,817
Peoria & Pekin Union	100,446	278,233	378,679
Petaluma & Santa Rosa	3,716	15,480	19,196
Pitt., Allegheny & McKees Rocks	4,503	3,544	14,389
Pitt., Chartiers & Youghiogheny	15,578	10,570	26,148
Port Townsend Southern	.....	685	685
Quanah, Acme & Pacific	34,455	56,073	90,528
Rahway Valley	7,283	7,888	15,171
Raritan River	23,804	28,954	52,758
Ray & Gila Valley	.....	10,540	10,540
St. Joseph Belt	5,173	7,884	15,057
St. Louis & Hannibal	8,040	11,620	20,585
St. Louis & Troy	660	577	1,237
St. Louis & O'Fallon	3,486	8,340	11,826
San Luis Central	1,929	2,511	4,440
Savannah & Atlanta	83,152	.....	183,703
South Georgia	6,841	100,551	24,163[17]
South Omaha Terminal	27,141	18,403	45,544
Susquehanna & New York	28,500	21,500	50,000
San Diego & Arizona Eastern	43,619	35,037	78,656
Tenn., Alabama & Georgia	29,228	73,896	103,484
Terminal Railway Ala. State Docks	19,859	33,328	105,187[18]
Toledo Terminal	83,040	107,220	190,983
Tonopah & Goldfield	11,353	10,006	21,359
Trona	25,832	36,958	62,790
Tucson, Cornelia & Gila Bend	8,320	8,541	16,861
Terminal of St. Louis	669,050	1,140,168	1,809,218
Union of Pittsburgh	598,634	1,505,717	3,006,934[19]
Union Terminal—Dallas	10,240	24,815	35,055
Union Terminal—St. Joseph	.....	8,927	8,927
Unity	2,595	1,948	4,543
Ventura County	1,224	2,991	4,215
Verde Tunnel & Smelter	12,355	30,068	42,423
Wash. Idaho & Montana	9,864	38,681	48,495
West Virginia Northern	1,720	2,426	4,146
Western Allegheny	8,694	2,250	11,793[20]
Winchester & Wardensville	.....	2,862	6,980
Winshaw-Salem Southbound	33,493	34,291	67,784
Yosemite Valley	21,647	48,623	70,270
Youngstown & Northern	36,783	604	432,632
Electric Railways*			
Bois D'Arc & Southern	4,158	6,969	11,127
Chicago, Aurora & Elgin	6,445	179,957	187,762[21]
Chicago, South Shore & South Bend	7,699	173,021	193,918[22]
Denver & Intermountain	.....	4,394	4,394
Kansas City Public Service	13,064	782,454	1,488,666[23]
Northeast Oklahoma	6,839	82,340	211,868[24]
Oklahoma City Junction	.....	2,055	2,055
Pacific Electric	248,600	954,250	3,320,000[25]
Piedmont & Northern	2,985	302,816	313,316[26]
Sacramento Northern	500	169,280	169,780
Visalia Electric	116	7,344	7,460
Canada and Mexico*			
Alma & Jonquiers	19,628	5,546	25,174
Canada & Gulf Terminal	5,283	11,283	16,566
Mexican Pacific	8,776	6,512	15,288
Newfoundland	375,567	582,000	957,576
Alaska	174,359	990,681	1,313,096[27]
Frankfort & Cincinnati	8,667	29,784	38,451
Hoboken Manufacturers	3,216	24,325	27,541
Tennessee & North Carolina	9,770	5,862	17,156
Toronto, Hamilton & Buffalo	126,067	356,905	484,976[28]
Tuskegee	2,695	6,860	10,425

* Not included in total purchases by U. S. railroads.

Totals include new equipment as follows: [1] $68,125; [2] $83,127; [3] $512 highway; [4] $54,248; [5] $183,294; [6] $93,383; [7] $36,000; [8] $13,621 railway, $778 highway; [9] $14,665; [10] $1,298; [11] $104,349; [12] $326,246; [13] $63,163 railway, $1,980 highway; [14] $284,250; [15] $730,813; [16] $125,718; [17] $6,585 highway; [18] $52,000; [19] $902,583; [20] $723 highway; [21] $4,360 highway; [22] $3,900 railway, $9,298 highway; [23] $404,000 railway, $289,148 highway; [24] $111,452 railway, $11,237 highway; [25] $672,900 railway, $1,444,250 highway; [26] $7,515 highway; [27] $145,225 railway, $2,831 highway; [28] $2,004 highway.

pared to this, $174,892,000, or 20.4 per cent of the total was spent by railroads in the Southern district. The purchases of materials and fuel by the railroads in the Western district last year were equivalent to 21.2 per cent of their gross operating revenues, while the purchases by the railroads in the Southern district were equivalent to 21.4 per cent of their revenues and the purchases of the railroads in the Eastern district were equivalent to 18.3 per cent of their gross operating revenues.

Of the total expenditures made by the Class I trunk lines last year for materials and supplies (exclusive of equipment), $34,477,000 were made by railroads in the New England region, $154,212,000 were made by railroads in the Great Lakes region, $153,404,000 by railroads in the Central Eastern region, $51,352,000 by railroads in the Pocahontas region, $123,540,000 by railroads in the Southern region, $100,239,000 by railroads in the Northwestern region, $176,366,000 by railroads in the Central Western region and $62,381,000 by railroads in the Southwestern region. These figures do not include the purchases by short lines, switching and terminal companies not controlled by Class I trunk lines. Total purchases of materials and supplies, exclusive of equipment, made by the Class I trunk lines last year were equivalent to 19.9 per cent of their gross operating revenues, as compared with 19.6 per cent in 1939 and 23.0 per cent in 1937.

Some of the railroads did not prepare reports showing the distribution of their purchases for 1940 among the several states, especially as to the orders placed for locomotives and cars. Compilations made by this paper, therefore, understate the extent to which each political subdivision of the United States shared in the purchases made last year. This is especially true of states in the southeast and the northwest. The distribution of purchases among the several states also fails to indicate the extent to which various states benefit indirectly from railway buying, as in the case of those states which furnish raw materials for manufacturing railway materials and equipment in other states. The special reports received, however, apportion over $900,000,000 railway purchases among the states and not only show that every state shared in railway buying last year as in previous years but also that many states participated to a larger degree than is commonly supposed in the expenditures made by the railroads in the markets of the country.

Of the $905,262,000 of railway purchases apportioned among the states, the state of Pennsylvania received $192,930,000, while Illinois received $116,635,000. Approximately $67,637,000 was spent in New York state, approximately $63,090,000 was spent in Indiana, $26,214,000 was spent in Alabama, $44,487,000 in California, $31,027,000 in Missouri, $44,672,000 in West Virginia, $12,363,000 in Wisconsin, $15,420,000 in Oregon, $58,892,000 in Ohio and $18,756,000 in New Jersey.

Nineteen railroads reported smaller volumes of purchases for materials, exclusive of fuel and equipment, in

Purchases By Class I Railroads—1940
(Excludes Fuel and New Equipment)

	1939	1940 Trunk Lines	Increase	Per cent increase	Per cent of oper. rev.
Akron, Can. & Young..	$228,314	$287,673	$59,359	25	12.0
Alton	2,440,494	2,553,398	112,904	4	15.5
Ann Arbor	272,703	307,824	35,119	13	7.4
Alta. & West Pt. Lines.	1,085,558	1,064,235	–21,323	–2	17.7
A. T. & S. F.	25,969,314	29,517,639	3,548,325	14	17.4
A. B. & C.	560,753	584,753	24,000	4	16.8
A. C. L.	7,297,697	9,490,989	2,193,292	30	19.0
B. & O. Sys.	16,805,516	23,393,989	6,588,273	43	13.1
Bangor & Aroos.	670,514	802,985	132,471	20	16.5
B. & L. E.	1,279,113	1,800,866	521,753	43	10.0
Boston & Albany	1,738,432	1,864,368	125,936	7	11.1
Boston & Maine	3,802,451	4,921,893	1,019,442	29	10.3
Burl.-Rock Isd.	51,235	36,288	–14,947	–29	16.0
Cambria & Indiana	127,418	98,642	–28,576	–22	6.2
Cent. of Georgia	2,355,080	2,904,592	549,512	24	17.6
Cent. of N. J.	3,380,335	5,104,328	1,723,993	50	14.2
Central Vermont	649,199	835,370	186,171	30	13.1
Charleston & W. Carol.	423,629	505,813	82,184	19	19.5
Chesa. & Ohio	13,350,915	19,847,314	6,496,399	48	15.0
C. & E. I.	1,742,541	2,057,536	314,995	18	13.1
C. & I. M.	504,548	811,908	307,360	60	17.0
C. & N. W.	10,464,641	12,052,208	1,587,567	15	12.9
C. B. & Q.	14,686,994	17,140,803	2,453,809	17	17.5
C. G. W.	2,407,128	2,443,995	36,867	2	13.0
C. I. & L.	800,975	1,184,362	383,387	48	12.5
C. R. I. & P.	12,328,322	11,500,717	–827,605	–7	14.3
C. St. P. M. & O.	2,138,394	2,256,209	117,805	5	12.5
Clinchfield	568,585	857,954	289,369	50	10.1
Colo. & Sou.	687,556	612,815	74,741	–10	9.3
Col. & Green	266,744	126,386	–140,358	–53	10.7
Del. & Hudson	2,415,728	3,407,443	991,715	41	12.7
Del. Lack. & West.	4,882,458	5,584,064	701,606	14	10.8
D. & R. G. W.	3,479,232	4,013,928	534,696	15	15.3
Det. & Mack.	81,992	90,442	8,450	11	10.6
Det. & Tol. S. L.	210,809	137,448	–73,361	–35	3.7
Det. Tol. & I.	505,035	780,868	275,833	54	10.4
D. M. & I. R.	1,556,396	2,134,249	577,853	37	7.7
D. S. S. & A.	167,946	382,119	214,173	128	14.5
E. J. & E.	1,511,463	1,841,478	330,615	22	8.3
Erie	9,054,000	9,727,222	673,222	7	11.3
F. E. C.	1,222,349	1,415,973	193,624	17	13.1
Ft. W. & D. C.	788,291	817,581	29,290	3	13.9
Grand T. West.	3,865,465	3,662,122	–203,343	–5	14.4
Gt. Northern	13,500,569	16,373,981	2,873,412	21	16.1
G. B. & W.	363,811	351,985	–11,826	–3	19.7
Gulf. Mo. & Ohio	2,708,395	2,613,435	–94,960	–3	14.0
Ill. Cent. Sys.	13,802,579	17,829,920	4,027,341	29	15.3
K. C. Southern	1,193,795	2,036,223	842,428	70	14.0
Lake Sup. & Ish.	151,276	237,831	86,555	57	6.6
Leh. & Hud. River	135,219	184,991	49,772	37	10.6
L. & N. E.	354,155	245,869	–108,286	–31	10.1
Lehigh Valley	4,298,584	4,045,558	–253,026	–5	8.5
La. & Ark.	1,248,543	1,689,782	441,239	35	20.2
La. & Nash.	12,379,415	15,921,061	3,541,646	28	16.2
Me. Cent. & P. Term.	1,277,326	1,676,134	398,808	31	13.8
M. & St. L.	1,490,408	1,860,774	370,366	25	19.2
M. St. P. & S. S. M.	3,058,669	3,769,863	711,194	23	12.1
Miss. Cent.	153,588	231,878	78,290	51	27.5
Mo. & Ark.	143,037	179,632	36,595	25	14.9
M.-K.-T.*	2,457,992	2,083,792	–368,200	–15	7.5
Mo. Pac. Lines	23,279,355	23,403,195	123,840	1	21.0
Monongahela	315,034	353,979	38,945	12	7.2
Montour	211,154	198,028	13,126	–6	9.0
N. Y. C. Sys.	42,155,292	54,185,189	2,029,897	28	13.7
N. C. & St. L.	2,212,352	2,546,308	333,956	15	16.3
Nev. Northern	121,034	129,744	8,710	7	17.3
N. Y. C. & St. L.	4,098,522	5,297,746	1,201,224	30	11.4
New Haven	8,841,910	9,350,628	508,718	6	10.5
N. Y. O. & W.	449,081	436,677	12,404	3	8.0
Norf. & West.	15,685,532	18,453,556	2,768,024	18	17.5
Norf. & Sou.	784,826	.....	.....	..	...
Nor. Pac.	9,072,205	9,119,882	47,677	1	13.3
N. W. Pac.	400,086	246,121	–153,965	–39	7.6
Penna. & L. I.*†	45,506,848	55,387,396	9,880,548	21	10.9
Pere Marq.	3,805,388	4,920,546	1,115,158	29	14.9
Pitt. & Shaw.	115,202	202,538	87,336	75	16.4
Pitt. & W. Va.	327,869	742,340	414,471	128	17.8
Pitt. S. & Nor.	82,224	101,704	19,480	23	8.2
Reading	4,163,036	6,351,057	2,188,021	53	9.9
Rutland	344,233	278,709	65,524	–19	7.8
R. F. & P.	1,115,848	1,532,495	416,647	37	15.9
Sou. Pac. P.-L.	17,134,404	20,074,074	2,939,670	17	10.9
St. L.-S. F.*	7,117,212	6,130,787	–986,425	–14	12.8
St. L. S. W.	4,294,694	3,847,558	–447,136	–10	18.6
Southern Sys.	17,914,197	19,432,109	1,517,912	8	13.8
Sea. Air Line	8,463,574	9,186,010	722,436	8	19.0
Spok. Int'l.	80,798	67,021	–13,777	–17	8.1
S. P. & S.	1,245,695	1,016,448	229,247	18	10.5
Tenn. Cent.	368,310	479,030	110,720	30	18.6
T. & N. O.	3,871,432	4,816,245	944,813	25	10.5
Tex. & Pac.	4,022,331	4,222,918	200,587	5	15.9
Union Pac.	33,036,519	25,800,302	–7,236,217	–22	15.2
Utah	67,083	68,399	1,316	1	7.9
Virginian	2,732,740	5,421,333	2,688,593	97	21.2
Wabash	5,566,136	7,955,269	2,389,133	43	17.4
West. Md.	2,897,853	3,376,456	478,603	17	17.6
West. Pac.	1,613,715	1,691,937	78,222	5	9.2
Wheeling & L. E.	1,927,508	2,456,493	528,985	28	14.5

* Exclusive of freight charges.
† Excluding material for equipment built in Pennsylvania shops.

1940 than in 1939 but all the other roads reported increases. The increase amounted to $3,548,000, or 14 per cent, on the Atchison, Topeka & Santa Fe; $6,588,000, or 43 per cent, on the Baltimore & Ohio; $1,019,000, or 29 per cent, on the Boston & Maine; $6,496,000, or 48 per cent, on the Chesapeake & Ohio; $2,453,000, or 70 per cent, on the Chicago, Burlington & Quincy; $2,873,000, or 21 per cent, on the Great Northern; $4,027,000, or 29 per cent, on the Illinois Central; $3,541,000, or 28 per cent, on the Louisville & Nashville; $2,029,000, or 28 per cent, on the New York Central; $9,880,000, or 21 per cent, on the Pennsylvania, (excluding materials for equipment to be built in the Pennsylvania's shops), and $2,939,000, or 17 per cent, on the Southern Pacific.

Purchases By Private Car Companies for Rail Line Operations 1940

Company	Material and supplies	Cars ordered from other companies	Total
Armour Car Lines	$718,305	$.....	$718,305
Berwind-White Coal	366,141	.....	366,141
Burlington	4,420,062	.....	4,420,062
Cities Service Oil (Del.)	48,323	27,690	75,913
Cudahy	190,000	.....	190,000
E. I. du Pont de Nemours	.....	56,600	56,600
El Dorado Refining	11,786	.....	11,786
Fruit Growers Express	4,075,417	.....	4,075,417
Hooker Electrochemical	.....	68,900	68,900
Merchants Dispatch	146,047	.....	146,047
New River & Pocahontas Coal	109,977	.....	109,977
North American Car	795,594	.....	795,594
Northern Refrigerator	271,517	.....	271,517
Pullman Company	11,117,190	8,264,160	19,381,350
Root Petroleum	15,000	.....	15,000
St. Louis Refrigerator	201,347	.....	201,347
Shell Oil	62,285	6,903	69,187
Sinclair	250,000	.....	250,000
Socony-Vacuum Oil	36,623	.....	36,623
Sun Oil	27,956	.....	27,956
Vendome Tank Car	11,724	.....	11,724
Western	1,084,631	.....	1,084,631
Wilson Car Lines	571,000	.....	571,000
General American Transportation	.....	No Data	.....
Pacific Fruit Express	5,823,102	.....	5,823,102

Increases in January 1941

Railway buying reached a peak last October when purchases of material, fuel and equipment purchased from manufacturers totaled $108,725,000; they totaled $96,144,000 in November and $99,842,000 in December. The railroads did not obtain deliveries on all the material ordered last year, however, and the receipt of this material, together with the purchases growing out of the National Defense programs, resulted in a continuation of large scale buying into 1941 and totaled $114,371,000 in January.

The Class I railroads received approximately $2,472,000 of rail during January, 1941; approximately $3,235,000 of cross ties, and $47,545,000 of miscellaneous materials, or a total of $53,252,000 of materials, exclusive of fuel and equipment, from manufacturers, or a total of $79,972,000 of materials and fuel, exclusive of equipment. While the receipts of rail and cross ties in January were smaller than in January, 1940, the purchases of materials for maintenance and repairs, excluding fuel, rail and cross ties, were larger in January, 1941, than in any month during 1940, or in any previous January since January, 1930. Total purchases of materials, exclusive of fuel and equipment, in January, amounting to $53,252,000, were about equal to the corresponding purchases in January, 1940, but were larger than in any month during 1940 with the exception of March.

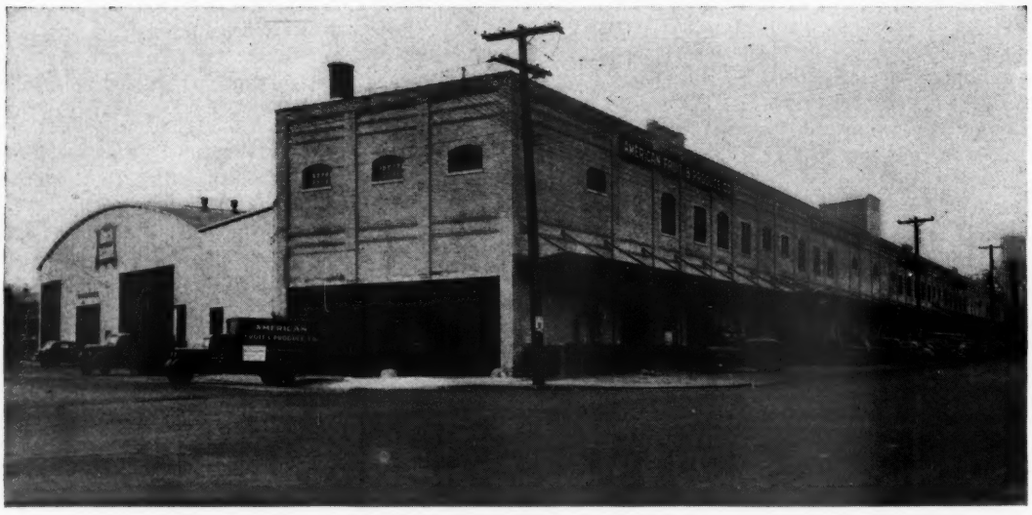
As compared with January, 1940, the purchases of materials and fuel, exclusive of equipment, made by railroads in January, 1941, showed an increase of 48 per cent on the Bangor & Aroostook, 10 per cent on the Boston & Maine, 24 per cent on the Central of Georgia, 20 per cent on the Great Northern, 17 per cent on the St. Louis Southwestern, and 35 per cent on the Wheeling & Lake Erie.

Details on the purchases made by the railroads in 1940 and in previous years are given in the tables. For further comparisons, reference is made to the analysis of 1939 purchases in the *Railway Age* of March 30, 1940, and to the analysis of 1938 purchases in the *Railway Age* of April 1, 1939. The purchases summarized in this issue do not include purchases of railway materials and supplies made by the Government for trackage being constructed at army camps.

Purchases Materials and Fuel—January

(Exclusive of Equipment)

	January 1941	January 1940	Increase per cent	December 1940	Increase per cent
Akron, Cant. & Young..	$24,017	$50,630	–52	$37,719	–37
Alton	300,696	336,985	–10	370,423	–19
Alton & Sou.	22,513	48,197	–53	23,975	–6
Ann Arbor	84,672	80,245	6	73,896	15
A. B. & C.	62,683	72,006	–12	80,123	–22
A. C. L.	1,108,354	1,045,128	6	1,046,932	6
A. T. & S. F.	3,928,868	3,795,835	4	3,553,458	11
Bangor & Aroos.	62,935	42,519	48	62,279	1
Boston & Maine	760,302	689,588	10	838,639	–9
Cambria & Indiana	8,801	9,778	–10	11,856	–15
Central of Ga.	379,286	304,990	24	353,195	7
C. B. & Q.	1,216,536	1,496,099	–19	1,370,950	–11
C. & O.	2,109,620	2,455,159	–14	1,573,425	33
C. & E. I.	199,196	326,440	–39	223,848	–10
C. & I. M.	220,355	57,574	280	111,659	98
C. R. I. & P.	1,182,475	1,328,545	–10	1,255,100	–6
Charl. & West Caro.	55,410	63,049	–12	34,345	61
Colo. & Sou.	131,214	140,667	–6	110,040	14
Col. & Green.	14,176	28,392	–50	18,886	–25
D. & H.	512,644	491,063	4	537,511	–5
D. & T. S. L.	31,023	31,662	–1	32,164	–3
D. M. & I. R.	145,684	165,331	–12	164,588	–12
D. T. & I.	69,013	80,473	14	70,745	–2
Det. & Mack.	19,595	9,200	113	9,123	115
E. J. & E.	392,612	261,600	50	339,175	15
Erie	1,301,629	1,268,384	3	1,418,220	–8
F. E. C.	235,341	215,560	9	180,621	31
Ft. W. & D. C.	101,113	150,692	32	73,985	37
Gt. Northern	1,793,323	1,498,398	20	1,847,597	–3
Ill. Cent.	2,672,242	2,312,044	16	1,557,622	70
Ill. Term.	72,218	83,873	–13	123,805	–41
K. C. Term.	78,074	92,400	–15	89,666	–12
Lake Sup. & Ish.	16,135	13,436	20	14,228	13
L. & H. R.	27,349	23,297	18	52,809	–48
L. & N. E.	37,669	43,631	–13	31,432	19
Lehigh Valley	786,018	800,173	–1	722,245	8
La. & Ark.	140,684	68,048	106	193,178	–27
Maine Central	250,448	273,533	–8	183,360	35
M.-K.-T.	322,556	332,809	–2	305,153	5
Miss. Cent.	17,287	8,891	94	13,957	24
Montour	19,383	22,298	–13	17,818	8
N. C. & St. L.	367,277	423,582	–13	338,344	8
N. Y. C.	7,346,190	7,024,263	5	7,314,029	1
N. Y. C. & St. L.	708,547	882,405	–20	780,247	–10
N. Y. N. H. & H.	1,126,838	1,125,496	0	1,188,497	–5
Nor. Pac.	1,210,448	1,018,917	19	1,065,075	14
N. W. Pac.	38,577	36,135	6	33,621	14
Penna. & L. I.	8,431,637	7,689,291	10	8,369,665	1
Pa. R. R. S. S. Lines.	88,225	59,236	49	62,047	42
Pere Marq.	632,190	699,514	–9	821,112	–22
Pitt. & Shaw.	10,165	30,668	–67	13,559	700
Pitt. & W. Va.	66,498	76,806	–13	.....	..
Pitt., Shaw. & Nor.	18,870	13,789	37	12,379	53
R. F. & P.	183,578	197,549	–6	210,563	–12
Rutland	66,287	66,692	–1	26,232	153
S. P. & S.	163,727	148,088	11	165,761	–1
St. L.—S. F.	963,390	714,024	35	863,394	12
St. L.-S. W.	530,535	450,497	17	624,992	–15
Sou. Pac.	3,132,064	3,101,475	1	2,626,506	19
Tenn. Cent.	42,497	59,738	–31	42,343	1
Term. of St. L.	155,202	190,609	–18	99,475	56
T. & N. O.	691,806	669,432	3	577,205	20
Tex. & Pac.	540,838	783,213	–31	577,926	–7
Utah	10,328	21,705	–31	15,416	52
Virginian	203,653	510,934	–60	373,024	–45
Wabash	737,329	1,010,625	–27	740,171	–1
West. Md.	534,044	672,183	–20	378,500	41
West. Pac.	340,700	185,300	84	379,400	–10
W. & L. E.	295,878	218,758	35	271,779	9



General View of the Street Sides of the New Produce Terminal, Showing the East End of the New Warm House

Transforms Old Freight House Into Modern Produce Terminal

Through alterations and additions to little-used building, Rock Island now has thoroughly modern facilities at Minneapolis, Minn., for the fruit and vegetable trade

INDICATIVE of the widespread change which is taking place in railway building requirements, and of what can and is being done by roads in many instances to meet these changing needs through the alteration and modernization of their buildings, is the recent work carried out by the Chicago, Rock Island & Pacific, at Minneapolis, Minn., where it converted a large two-story l. c. l. freight house into a modern perishable produce terminal, and transferred its freight handling to a nearby smaller one-story building which had previously served as a produce receiving unit.

At Minneapolis, the Rock Island had excess area in its freight house, while many of the wholesale fruit and produce dealers of the city were operating in facilities inadequate to their needs, in many cases without track facilities. This situation led to negotiations with the dealers for direct service on the Rock Island through facilities to be provided in the freight house, and, eventually, to the modernization and enlargement of the house to provide a complete and up-to-date fruit and produce terminal. As remodeled and enlarged, the road now has in its old freight house approximately 84,000 sq. ft. of floor space, exclusive of platforms, divided for the use of individual produce merchants and fitted as called for with rooms equipped for cooling, heating, ventilation and humidification as is necessary to meet the requirements for holding and conditioning produce in the best interests of the trade and the public. In addition, in conjunction with the new produce building, it provided a car unloading warm house, with trackage for 36 cars and a wide driveway area, where produce of even the most delicate nature can be handled into the produce building, or unloaded into dealer trucks, entirely out of the weather, and without the danger of becoming frozen in even the coldest weather.

In its old l. c. l. freight house at Minneapolis, which fronts on Fourth avenue, between Eighth and Tenth streets in the eastern part of the city's main business district, the Rock Island had a two-story, with basement, brick structure, 540 ft. long by 42 ft. wide, separated transversely into five major units by brick fire walls. Although built in 1902, the structure, with a light yellow face brick, had a sightly appearance, and was still highly serviceable. Within, it had a stone masonry walled basement with a concrete basement floor, a first and second floor of timber frame construction, and a frame roof, covered with built-up roofing.

To meet the requirements of freight handling, the Fourth avenue, or front, face of the building throughout its length was built with a series of rolling, shutter-type steel doors, and for approximately 200 ft. of its length was served by a frame loading and unloading platform, eight feet wide, protected by an overhanging canopy. The rear, or track side, of the building, at the main floor level, was built with a continuous row of rolling, shutter-type doors, to permit unloading operations into the station at any point without special care in spotting cars.

With this unit as a basis, the Rock Island set out to meet its growing requirements for modern produce-handling facilities. With a greater floor area required immediately for the handling of produce than was afforded in the existing building, one of the first and major steps in the alteration project included the construction of a one-story addition to the rear of the building, for its full length and 30 ft. wide, which added approximately 16,200 sq. ft. of produce-handling floor space to that afforded in the existing building. This new area, which was built without a basement on a highly compacted fill, was made integral with the existing building through the removal of all of the old doors in the old south face of

the building and the extension of the existing floor and fire walls into it, the floor extension being in concrete. The new rear wall of the building extension itself was constructed as a standard fire wall, with rolling tin-clad fire doors in each of the different sections as required, and wire glass skylights.

Flanking the new rear of the building proper, and within a new warm house built immediately to the south, a new floor-level reinforced concrete platform, 12 ft. wide, was constructed, with its outer edge 8½ ft. from the center line of a new 12-car house track provided within the warm house area. Completely under cover, this new platform provides for the ready trucking of produce from cars into the building under favorable conditions at all times. For the handling of produce into the basement of the main building without trucking over the first floor, the platform opposite each of the main sections of the building is equipped with a grille-covered package and banana drop, which extends down into a new concrete tunnel of reinforced concrete construction and 6 ft. wide by 8 ft. high, which leads back into the basement area. These new package drops and tunnels supplement electric freight elevators of 2,500 lb. capacity in each of the building sections, and have their greatest advantage in minimizing trucking through the produce storage and display areas of the main floor.

New Warm House

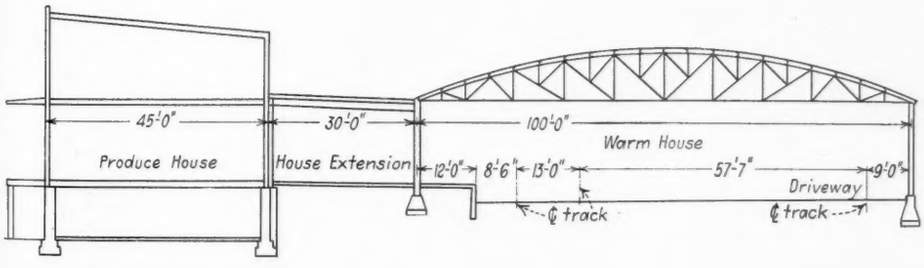
One of the most interesting of the new facilities provided is the warm house itself, a facility which is particularly essential at Minneapolis in view of the cold and prolonged winters experienced in that vicinity. This unit, which is essentially a fully enclosed steel frame shed, with a bow-type roof, is 100 ft. wide and extends the full length of the building proper. In addition to the 12-car house track already mentioned, this unit affords protection to two 12-car team tracks, one adjacent to the house track and one along its south side, which are separated by an oiled dirt driveway, approximately 60 ft. wide.

Designed and heated to permit the maintenance of a 40-deg. temperature at 30 deg. below zero, the house has an insulated roof and insulated walls. The roof is constructed of Truscon Ferrobord roof decking, covered with one inch of Insulite board, which is weather-proofed with three-ply built-up roofing. The side and end walls of the house, except for large Truscon, motor-operated bifolding car entrance doors at both ends, are entirely of Truscon Ferroclad panels, these panels consisting of one inch of board-type insulation faced on both sides with steel sheets.

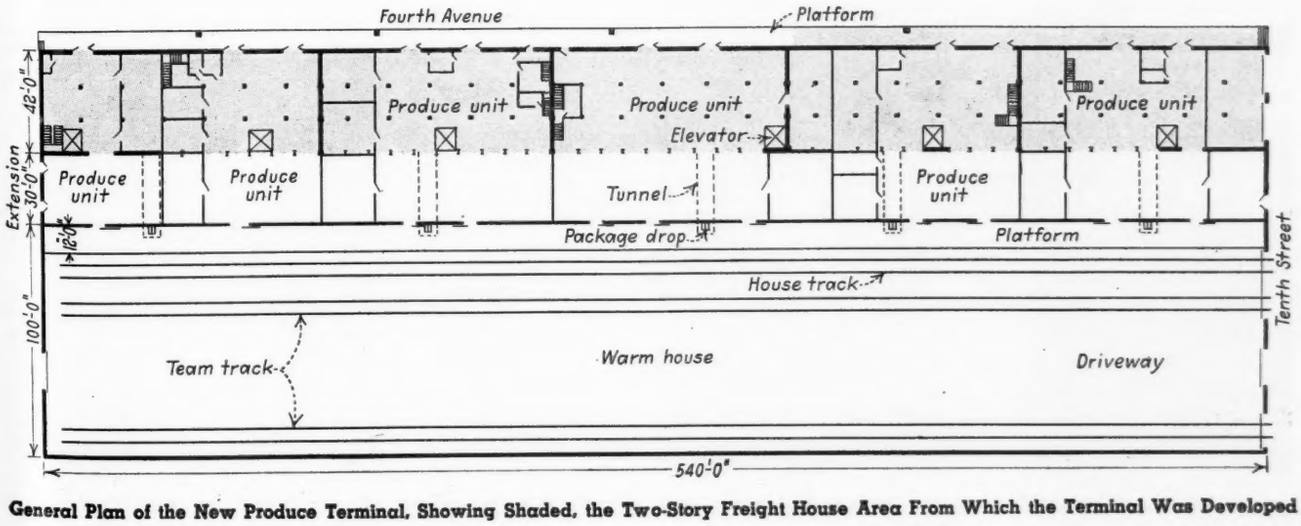
Daylighting of the house is effected by means of a series of skylights longitudinally through the center and over the 12-ft. unloading platform, all of these being fitted with wire glass. Artificial lighting, on the other hand, is secured by means of rows of incandescent lights suspended from the roof trusses, and equipped with shallow-bowl enameled reflectors.

Heating of the house is by means of six rotating-type discharge unit heaters housed in the roof truss area at equal intervals through the center line of the structure, these units being designed to distribute warmed air uniformly over the floor area. All of these units are fed with steam from a central boiler plant at the terminal through a single low pressure steam line which is suspended longitudinally through the center line of the building from the lower chords of the roof trusses, condensate returning to the boiler room by gravity. This steam line, which is graduated in size from 8 in. to 4 in. in diameter, is heavily insulated against heat losses and has oxy-acetylene welded joints throughout.

To adapt the old freight house proper and its 30-ft. extension to the handling of produce, was largely a



Cross Section Through the New Produce Terminal



General Plan of the New Produce Terminal, Showing Shaded, the Two-Story Freight House Area From Which the Terminal Was Developed

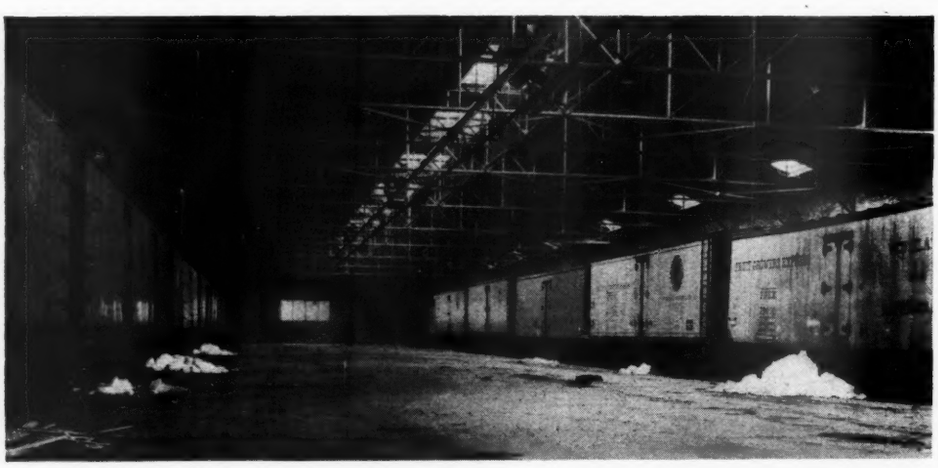
matter of equipping them with offices and with specially insulated rooms of carload capacity or less for the storage or conditioning of fruit and vegetables. However, to meet the requirements of the trade, the covered delivery platform along a part of the front face of the building was extended along the entire front face, and all of the old rolling, shutter-type freight doors along this side of the building were removed, the openings being either bricked in or fitted with three-section, partially-glazed R-W folding doors, all sections of which can be folded back to provide a trucking opening nine feet wide.

In at least one instance, special street-level truck entrance doors were provided, this being for the dealer located in the extreme east end of the building, who desired an inside loading area where his produce could be loaded into trucks with full protection from the weather for delivery about the city. In this case, the first floor area of the building was cut back to afford a street-level truck-spotting space 42 ft. by 25 ft. within the building, enclosed on the Fourth Avenue side by the front face of the building, and on the Tenth Street end by two large Kinnear RoL-ToP trucking doors.

Being divided into five main sections by fire walls, each section about 108 ft. long, the building provided automatically for quarters, or stores, for five separate

Within One of the Produce Units, Showing Fruit and Vegetables Stored Temporarily in the Open

ate dealers, in addition to providing, in the warm house, team track facilities for the heated unloading of produce consigned to other dealers who are not quartered in the building.



Looking Through the Spacious New Warm House

produce dealers. But by dividing the most westerly section into two parts by a new fire wall, this section afforded space for two dealers with smaller requirements. Thus, as altered, the terminal houses six separate dealers, in addition to providing, in the warm house, team track facilities for the heated unloading of produce consigned to other dealers who are not quartered in the building.

The Canopy-Covered Truck Loading and Unloading Platform Along the Front of the Building

To meet the requirements of its tenants, each of the dealer sections is equipped with offices and with produce, banana and tomato rooms, each designed and equipped to hold perishable produce under the most favorable conditions, or to condition and prepare it as required to meet the demands of the market. The produce rooms, of which each dealer has from three to five, all located on the main floor, are designed for cooling only in the holding of such produce as celery, lettuce, carrots and many fresh fruits, except bananas and citrus fruits. These rooms, which are fully insulated built-in units, generally of one-car capacity, are equipped for cooling down to 32 deg. F.

The banana rooms, of which from three to six were provided for each dealer, are located in the basement, These rooms, of about one-half-car and one-car capacity, as called for, are likewise built-in insulated units, but, in addition to providing for cooling, they are also equipped for heating, ventilation and humidity control to permit the maintenance of temperatures over a wide range, with the proper degree of ventilation and humidification for either holding the fruit or ripening it under the most favorable conditions. The tomato rooms are much the same as the banana rooms, being equipped for temperature, ventilation and humidity control, and like these rooms, with one exception, are located in the

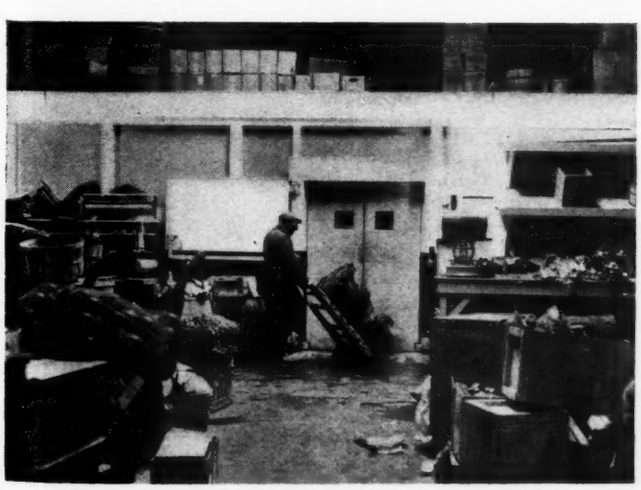
basement. The single exception in the case of the tomato rooms, is located on the second floor and is connected to the first floor by means of a special package chute. In fact, some of the dealers use their banana rooms equally effectively for the holding and ripening of tomatoes during the season when the banana trade is light.

One dealer section has been fitted with a special room of one-half-car capacity, on the main floor, for the handling of quick-frozen vegetables. This room differs from the others only in that it is serviced by refrigeration equipment that is capable of maintaining a sub-zero temperature at all times, and is provided with special shelving to store this class of produce, which is handled and shipped generally in relatively small packages.

Cold Room Construction

The produce rooms are insulated throughout with three and four inches of Rockcork in free-standing walls, the inner and outer faces of which are finished with one-half inch of Portland cement plaster. The ceilings, on the other hand, are faced with one-half inch of asphalt mastic, painted with aluminum paint. In the case of the banana and tomato rooms in the basement, the ceilings are insulated with four inches of Rockcork, while the side walls are insulated with three inches of the same material. The corkboard in the ceilings is recessed between the joists of the floor above, and is faced with ¾-in. redwood sheathing to form a continuous, enduring ceiling face. All woodwork was painted with fungus-resistant enamel. The walls of the banana and tomato rooms are similar in construction to those of the produce rooms, except that in the case of those which back up against the building foundation or stone partition fire walls, the cork insulation used was furred out from the walls on 2-in. by 4-in. studding. In all cases, the inner surfaces of the walls were faced with one-half inch of cement plaster.

All of the produce rooms are fitted with Streator vestibule-type doors, each of which includes not only the normal heavily insulated, hinged-type door, but also a pair of inner, double-swinging, insulated pantry-type doors, which are relatively light, quick-acting and only about 1¼ in. thick. These inner doors function to give quick closing of the room entrance in the interest of least interference with the temperature being maintained, and are particularly effective during the stowing or removal of produce, when frequent openings are required.



Moving Produce Into One of the Refrigerated Rooms—Note Light, Double-Swinging Pantry-Type Produce Room Doors

During these latter times, the main refrigerator door is left open and protection is afforded only by the light inner doors, which can be bumped to an open position readily by a load passing through the doorway, closing automatically when the load has passed.

Refrigeration Equipment

The refrigeration equipment provided consists of compressor-type ice machines, employing Freon refrigerant, located in the basement areas of the different dealer sections, and fin, coil-blower-type units of both the ceiling and floor-mounted types, installed in the individual produce rooms. In one of the one-car banana rooms, there is one of the floor-type units, which has a 36,000-b. t. u. capacity when employing a 40-deg. refrigerant. In all of the other rooms, from one to three of the ceiling-type units are employed, these having a rating of 18,000-b. t. u. when employing a 40-deg. refrigerant. All of the units are controlled thermostatically and are so located as to produce as nearly uniform temperature as possible throughout the rooms.

The cooling units in each room are served by their own compressor unit or by cross connecting the units of more than one room, depending upon the size of the rooms. These compressor units vary in capacity from one to three horsepower. This arrangement permits maximum flexibility in the use of the different rooms and minimum consumption of power when certain of the rooms are out of service. Cooling and condensing water for all of the compressors is secured from a new well, 400 ft. deep, which produces 50-deg. water continuously throughout the year. This well is equipped with a deep well centrifugal pump having a capacity of 250 gal. per min.

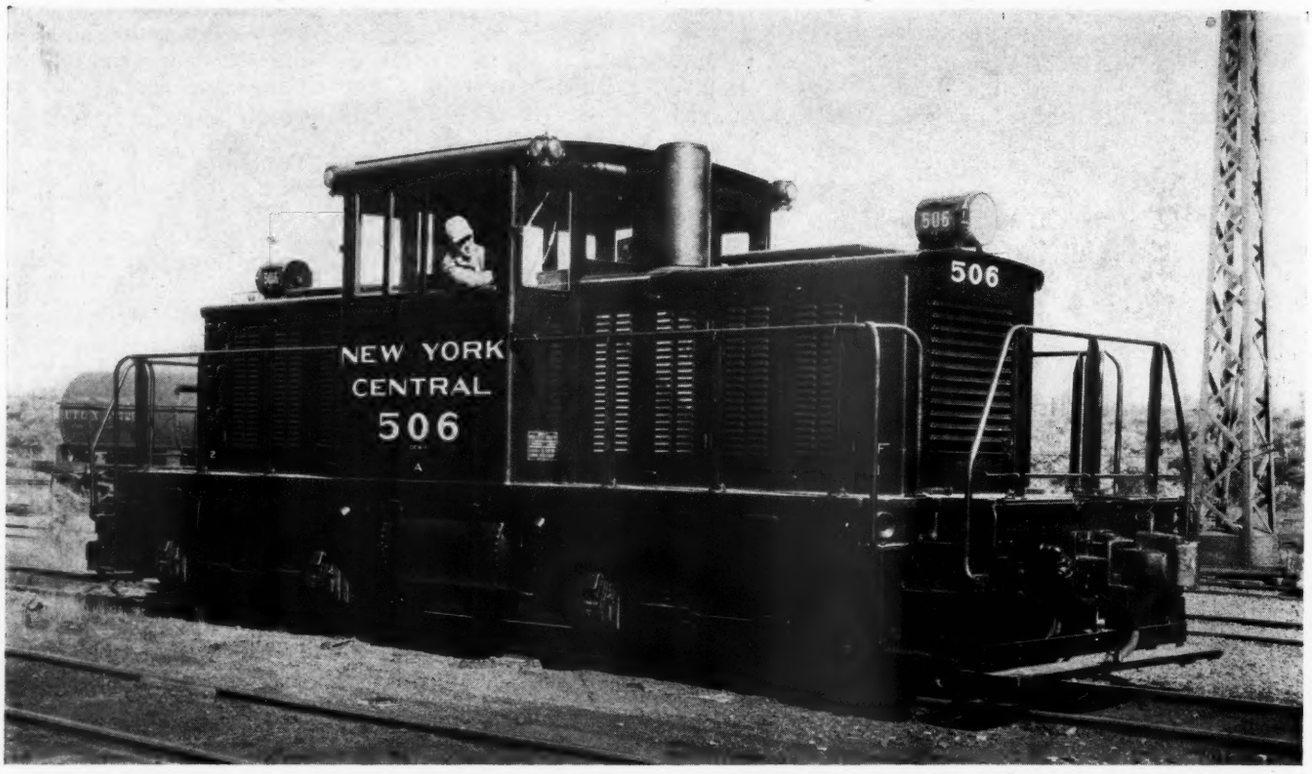
To provide for the heating of the various produce rooms during cold weather, and the banana and tomato rooms at other times when ripening temperatures are required, Electromode air heaters are employed. These are portable, metal-enclosed combination heating coil and blower units, with from five to nine kilowatt capacity. They are controlled thermostatically and, being portable, they can be moved from one room to another as may be required by weather conditions or the various ripening schedules.

Humidification, which is provided for only in the banana and tomato rooms, is effected by a water-spray system located near the ceiling line, the system in the various rooms containing from two to five spray nozzles in accordance with requirements. In all cases the amount of humidification is controlled manually, but is checked by the use of dry-wet bulb thermometers. Like humidification, fresh air circulation is provided only in the banana and tomato rooms, this being through two wall openings, each 12 in. by 12 in. in area, equipped with doors which must be adjusted manually.

Offices and General Heating Equipment

As already pointed out, one of the tomato rooms is located on the second floor of the building, but, for the most part, this area is given over to dealer offices and to storage and toilet rooms, although in one space there is a large recreation room and restaurant provided for the convenience of the terminal employees and patrons generally. The principal feature of all of these facilities is that they were developed readily in an open, loft-like area through the installation of partition walls and room-height ceilings, sheathed with wood on the outside and faced for the most part on the inside with wallboard panels with various decorative finishes. The principal

(*Continued on page 525*)

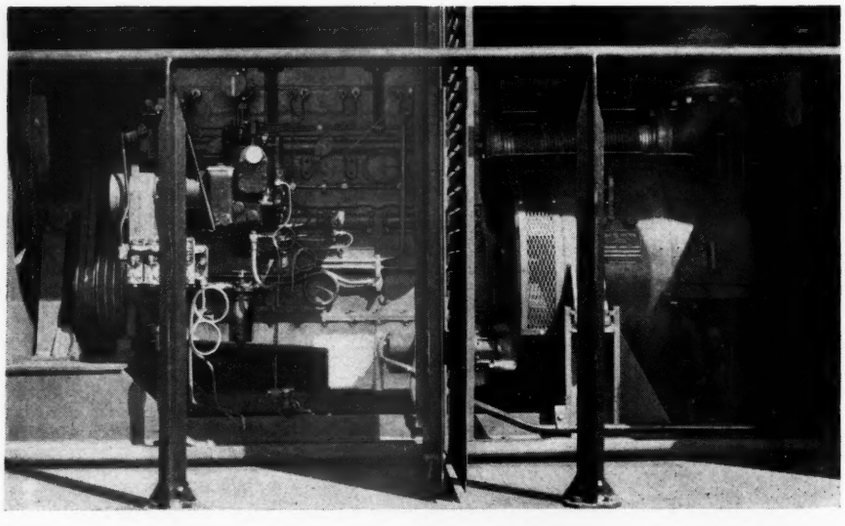


70-Ton Switcher for New York Central

Locomotives designed for fast handling of light loads can also be used for moving heavy ones

By W. D. Bearce

Transportation Department,
General Electric Company,
Erie, Pa.



Engine Hood Doors Open, Showing Fuel-Pump Side of One Engine Generator Set

A DIESEL-electric locomotive embodying several unusual features was recently placed in operation in the switching yards of the New York Central at Auburn, N. Y. It has a total weight, fully equipped, of 70 tons and a power-plant rating of 400 hp. Double reduction motors flexibly mounted on the trucks drive each axle, giving 42,000 lb. starting tractive force at 30 per cent coefficient of adhesion, and a maximum speed of 25 m. p. h.

The power equipment consists of two 200-hp., 1800-r. p. m., 6-cylinder Cummins Diesel engines each directly connected to a G-E generator. This type of locomotive is particularly suited to operation in a small yard and has sufficient capacity if required for operating in transfer service to other yards.

The Cummins HBIS engine is a supercharged design delivering 200 hp. including auxiliary requirements. A minimum of 180 hp. for each engine is available for traction purposes. Directly connected to each engine is a GE-550 shunt-wound traction generator which supplies

current to the two direct-current series-wound traction motors mounted on the adjacent truck. These motors are carried on the truck frames on rubber mountings and drive the axles through double universal-joint propeller shafts and GE double-reduction gearing. While normally each generator drives the two motors on its own truck, provision is made for operating the other set of motors should occasion require.

The control is of the single-connection type with automatic transition to reduced field, the two motors of each truck being connected permanently in series. Should one engine generator set be disabled, all four motors can be driven from a single power plant. A semi-constant engine-speed arrangement provides unusually responsive, snappy performance. Excitation for the main generator is supplied from a belted generator floating on a 32-volt battery.

This 32-volt battery supplies starting current and also supplies lights, headlights and other auxiliaries. The GE-1204 motor is specially designed for traction service and is effective in reducing the weight and cost of electrical equipment.

Cab and Frame

As with other locomotives using two engines, the construction of the cab is symmetrical with a central driving compartment and low end cabs over the engine-generator sets.

The platform is built up of steel members and the plates fabricated entirely by welding. The cab is likewise welded throughout with provision for easy accessibility to both engines and control. The cabs housing the power plants are provided with additional side doors and hatch cover. The operator's cab has a wood floor at the control station and helper's position, two doors providing access from each end, and windows in both sides and ends.

Running Gear

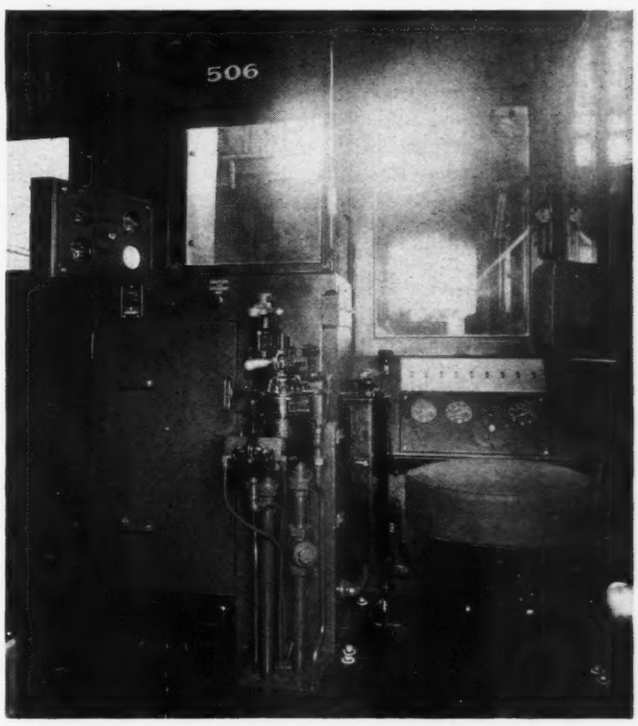
The truck frames are also fabricated by welding throughout using rolled carbon-steel plates and shapes. The wheels are solid rolled-steel with A. A. R. standard tread and flange. The ordinary side equalization used for swivel-truck locomotives insures uniform loading on all eight wheels.

There is a radiator at each end for cooling the engine water, and cooling air is supplied by a fan directly connected to the engine shaft. Hand-controlled shutters permit the engineer to limit the ventilation during cold weather.

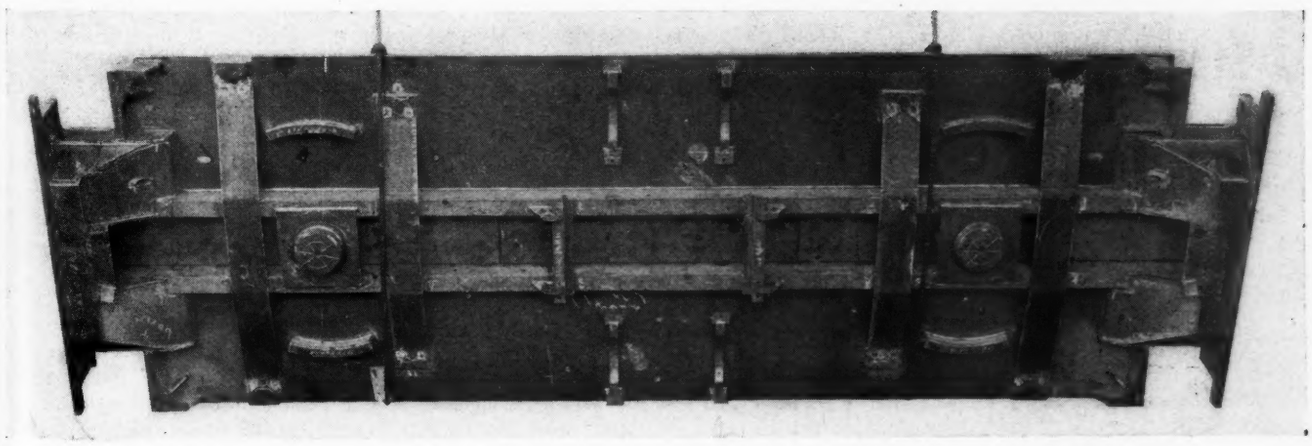
Auxiliary Equipment and Accessories

The starting motor and charging generator are mounted on each engine frame and the supercharger unit, belt-driven from the main engine, is also attached to the side of the engine. Other equipment includes air-operated sanders, a 40-lb. cast-brass bell, an air whistle, window wipers and a complete illuminated gage panel containing battery-charging ammeters, air gages and engine gages indicating water temperature and lubricating-oil pressure.

The air-brake equipment is type 14EL straight and automatic with a single shoe applied to each wheel. There are two 3½-in. by 3½-in. single-stage, two-cylinder, air-cooled, belt-driven air compressors; total piston displacement is 70 c. f. m. when the compressors are operated



AT RIGHT—Interior of Operating Cab Looking Toward the No. 1 End—BELOW—Bottom View of Cab Underframe



at 900 r. p. m. which is normal speed when the main engines are operating at 1,800 r. p. m.

The locomotive carries a 300-gal. fuel-oil tank with provision for filling, gaging and venting.

Because of the double reduction feature and the semi-constant-speed engine operation, the locomotive is particularly snappy with light loads and is capable of handling a long string of cars if required.

Following are the principal weights, ratings and dimensions:

Weight in working order	140,000 lb.
Weight per driving axle	35,000 lb.
Length inside knuckles	36 ft. 1 in.
Width overall	10 ft. 0 in.
Rigid wheel base	7 ft. 6 in.
Wheel diameter	33 in.
Motors	4—GE-1204
Gear ratio	17.49 to 1
Tractive force, continuous	14,600 lb.
Speed	7.1 m.p.h.
Max. tractive force (30 per cent adhesion)	42,000 lb.
Capacity of fuel tank	300 gal.

Trainmen Awarded Pay for Days Not Worked on Railroad Not Operating

A FREIGHT conductor and two brakemen recently went to the National Railroad Adjustment Board, First Division, with claims totaling $1,688.56 for days not worked under a minimum monthly guarantee contract against the Fort Smith & Western which had been officially abandoned before the period for which pay was claimed. The Division deadlocked and the case was given to Referee Paul W. Richards, a justice of the Supreme Court of Iowa, who awarded the men their claims against the property of the defunct railroad in a decision dated August 30, 1940.

Operation of the Fort Smith & Western ceased on January 19, 1939, by order of the United States district court, and its property was sold. On that date the road became legally dead and ceased to be a common carrier. The court, however, allowed the receiver to carry on intermittent emergency switching services for industries at Fort Smith, Ark., and to serve certain coal mines otherwise unable to move their production. These special movements ceased on September 1, after which the movement of salvaged material from dismantling of the line to the nearest operating railroad connection constituted the only traffic on the defunct road. These movements were in no sense regularly assigned runs and were not bulletined by the receiver; the road was officially closed, and employees were so notified. What limited work the movements entailed was offered to employees on a seniority basis.

The three employees involved claimed pay for days not called or worked during this period of special emergency operation, February 1 to October 15, 1939. The conductor claimed 105 days' pay at $6.32 per day, or a total of $663.60, while the two brakemen claimed an equal number of days' pay at $4.88 per day, or a total of $512.48 each. Claims were based on Article VIII, (a), of an agreement between the F. S. & W. and the brotherhoods guaranteeing not less than 100 mi. or 8 hr. for each calendar working day (including legal holidays) to *regularly assigned* way freight, wreck, work and construction trainmen ready for service during a given month. The three claimants worked 14 days in February, 13 in March, 10 in April, 7 in May, 12 in June, 10 in July, 23 in August, 20 in September and 5 in October, in emergency service. For these services the conductor received $720.48 and the brakemen $556.32 apiece plus overtime earned, if any; payments which may well be considered windfalls, inasmuch as the road was officially abandoned and their regular employment had been terminated.

That the claimants themselves considered their employment terminated is proven by the fact that they drew unemployment insurance from February 1 on, even during the 10 months in which they worked a total of 114 days. J. S. Parks, receiver of the road, in his submission to the Adjustment Board contended that acceptance of this unemployment compensation shows claimants were not regularly employed and did not hold themselves at all times in readiness for call by the railroad.

Referee Richard's printed "finding" which granted the claims sought was terse. It read: "Article VIII, (a), of the agreement in evidence applied to the facts shown in the docket warrants an affirmative award." This finding brought vigorous dissent from the carrier members of the First Division of the Adjustment Board who contended that it "fails even to hint at a basis for the award and serves only to obscure the fact that there is no rational basis for the award." Furthermore, they wrote, it completely ignores a federal court action directing cessation of operation and treats a common carrier, legally dead and non-operating, as though alive and performing regular service.

Concerning the employees, the dissenting members wrote: "Having accepted the employment offered by the receiver, having represented to their government that they were unemployed on every day they did not work for the receiver, the claimants now assert they were not so unemployed, but were instead regularly assigned employees . . . ." Pointing out that the claims of the petitioners were previously disallowed by the court administering the property of the defunct railroad, they charged: "The majority [i.e., the referee] has held in effect that the agreement has force to require a carrier to conduct operations and employ men; that it must not only employ men, but it must give them regular assignments. . . . It is held to empower and require this Division to revive a defunct carrier, and to compel it to operate for the sole benefit of a chosen few of its former employees." For Readers' Check: This case is identified as N. R. A. B., First Division; Award 5026; Docket 9135. Respondents—Order of Railway Conductors and Fort Smith & Western.

1940's Net Income Was $191,050,215

WASHINGTON, D. C.

THE Interstate Commerce Commission on March 18 made public its compilation of selected income and balance sheet items for December and the 12 months of 1940, showing last year's net income of the Class I roads to have been $191,050,215, as previously reported by the Association of American Railroads and noted in the *Railway Age* of March 8, page 430. This compares with a net income of $94,745,129 for 1939.

Eighty Class I roads reported net incomes for 1940 while 46 reported deficits, as compared respectively with 70 net incomes and 56 deficits in 1939. Last year's net railway operating income was $682,043,481, as compared with 1939's $588,829,073; fixed charges were up from $605,845,224 to $606,152,900.

The commission's summary and the principal items for the individual roads are given in accompanying tables.

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 131 Reports (Form IBS) Representing 136 Steam Railways

(Switching and Terminal Companies Not Included)

Income items	All Class I Railways: For the month of Dec. 1940	For the month of Dec. 1939	For the twelve months of 1940	For the twelve months of 1939
1. Net railway operating income	$78,715,666	$60,981,304	$682,043,481	$588,829,073
2. Other income	34,503,941	32,376,572	168,929,903	160,866,266
3. Total income	113,219,607	93,357,876	850,973,384	749,695,339
4. Miscellaneous deductions from income	4,862,830	3,671,245	27,664,246	25,052,099
5. Income available for fixed charges	108,356,777	89,686,631	823,309,138	724,643,240
6. Fixed charges:				
6-01. Rent for leased roads and equipment	13,226,794	12,786,238	144,945,181	142,099,579
6-02. Interest deductions[1]	39,523,996	37,555,735	459,700,877	462,145,101
6-03. Other deductions	129,611	141,583	1,506,842	1,600,544
6-04. Total fixed charges	52,880,401	50,483,556	606,152,900	605,845,224
7. Income after fixed charges	55,476,376	39,203,075	217,156,238	118,798,016
8. Contingent charges	4,397,955	2,474,646	26,106,023	24,052,887
9. Net income	51,078,421	36,728,429	191,050,215	94,745,129
10. Depreciation (Way and structures and equipment)	17,540,205	16,690,638	205,859,980	201,851,956
11. Federal income taxes	4,209,140	2,852,200	59,650,284	32,962,480
12. Dividend appropriations:				
12-01. On common stock	38,461,604	18,980,463	135,774,682	106,664,624
12-02. On preferred stock	1,060,998	639,633	23,463,039	19,154,336
Ratio of income to fixed charges (item 5 ÷ 6-04)	2.05	1.78	1.36	1.20

[1] Represents accruals, including the amount in default.

[2] 1939 figures for certain liability items have been revised, for comparative purposes, to conform with changes prescribed in the Uniform System of Accounts by Commission's order of December 6, 1939, effective January 1, 1940.

Selected asset and liability items[2]	All Class I Railways: Balance at end of Dec. 1940	Balance at end of Dec. 1939
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, account 707)	$563,504,867	$623,314,839
14. Cash	625,614,307	529,488,280
15. Demand loans and deposits	27,939,321	21,727,848
16. Time drafts and deposits	26,846,717	27,141,993
17. Special deposits	127,418,808	103,665,796
18. Loans and bills receivable	2,825,528	2,789,681
19. Traffic and car-service balances receivable	73,221,719	63,180,169
20. Net balance receivable from agents and conductors	56,368,406	51,714,123
21. Miscellaneous accounts receivable	139,085,364	131,616,246
22. Materials and supplies	334,671,956	327,230,244
23. Interest and dividends receivable	15,578,762	18,704,690
24. Rents receivable	1,395,722	1,342,045
25. Other current assets	5,143,420	4,199,777
26. Total current assets (items 14 to 25)	$1,436,110,030	$1,282,800,892
27. Funded debt maturing within 6 months[3]	95,349,405	117,889,937
28. Loans and bills payable[4]	92,583,652	184,546,685
29. Traffic and car-service balances payable	92,525,179	81,386,224
30. Audited accounts and wages payable	224,024,451	221,766,691
31. Miscellaneous accounts payable	59,314,676	68,247,872
32. Interest matured unpaid	53,057,298	48,169,524
33. Dividends matured unpaid	12,644,261	11,315,819
34. Unmatured dividends declared	5,360,235	4,102,260
35. Unmatured interest accrued	69,090,087	69,899,059
36. Unmatured rents accrued	16,886,518	16,506,580
37. Other current liabilities	39,135,300	33,880,403
38. Total current liabilities (items 28 to 37)	664,621,657	739,821,117
39. Tax liability (account 771):		
39-01. U. S. Government taxes	106,110,520	81,449,354
39-02. Other than U. S. Government taxes	122,331,298	127,987,379

[3] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.

[4] Includes obligations which mature not more than 2 years after date of issue.

Selected Income Items By Regions and Districts, Class I Steam Railways, Calendar Years 1940 and 1939

Region and railway	Net Railway Operating Income 1940	Net Railway Operating Income 1939	Total Income 1940	Total Income 1939	Total Deductions 1940	Total Deductions 1939	Net Income 1940	Net Income 1939
United States—Total	$682,043,481	$588,829,073	$850,973,384	$749,695,339	$659,923,169	$654,950,210	$191,050,215	$94,745,129
Eastern District—Total	291,201,514	252,863,970	380,069,024	333,558,808	290,076,920	288,343,472	89,992,104	45,215,336
New England Region	20,555,221	19,323,461	27,050,463	26,063,616	28,047,510	28,440,145	*997,047	*2,376,529
Great Lakes Region	110,930,080	94,776,974	138,023,391	119,796,741	115,427,465	112,246,103	22,595,926	7,550,638
Central Eastern Region	159,716,213	138,763,535	214,995,170	187,698,451	146,601,945	147,657,224	68,393,225	40,041,227
Southern District—Total	166,763,068	157,849,550	187,202,927	176,271,253	96,729,310	98,825,482	90,473,617	77,445,771
Pocahontas Region	84,823,163	78,256,775	89,084,828	81,947,409	15,302,648	16,169,449	73,782,180	65,777,960
Southern Region	81,939,905	79,592,775	98,118,099	94,323,844	81,426,662	82,656,033	16,691,437	11,667,811
Western District—Total	224,078,899	178,115,553	283,701,433	239,865,278	273,116,939	267,781,256	10,584,494	*27,915,978
Northwestern Region	82,172,907	59,516,955	93,219,152	72,816,519	93,568,605	92,956,727	*349,453	*20,140,208
Central Western Region	102,956,956	87,117,258	145,773,484	131,514,075	116,345,893	111,409,424	29,427,591	20,104,651
Southwestern Region	38,949,036	31,481,340	44,708,797	35,534,684	63,202,441	63,415,105	*18,493,644	*27,880,421
Akron, Canton & Youngstown[1]	413,297	306,009	515,766	409,634	455,580	427,376	60,186	*17,742
Atchison, Topeka & Santa Fe[2]	24,017,625	19,170,866	26,391,160	22,056,289	13,645,789	13,553,557	12,745,371	8,502,732
Atlantic Coast Line System:								
Atlanta & West Point	11,114	*18,900	34,676	2,439	5,886	6,335	28,790	*3,896
Atlanta, Birmingham & Coast	*225,959	*125,511	*190,493	*87,284	24,784	15,209	*215,277	*102,493
Atlantic Coast Line	3,757,234	3,781,872	8,972,275	8,133,095	7,148,738	7,329,021	1,823,537	804,074
Charleston & Western Carolina	428,680	453,711	446,297	477,586	303,165	303,569	143,132	174,017
Clinchfield	3,672,086	3,286,120	3,684,074	3,297,515	3,684,074	3,297,515	.....	.....
Georgia R. R.—Lessee Organization	744,356	700,627	785,945	726,853	667,511	667,851	118,434	59,002

* Deficit or other reverse items.

[1] Report of trustee or trustees.

[2] Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.

Selected Income Items By Regions and Districts, Class I Steam Railways, 1940 and 1939—Continued

Region and Railway	Net Railway Operating Income		Total Income		Total Deductions		Net Income	
	1940	1939	1940	1939	1940	1939	1940	1939
Louisville & Nashville	$17,187,993	$15,848,660	$18,849,448	$16,962,791	$9,312,302	$9,568,560	$9,537,146	$7,394,231
Nashville, Chattanooga & St. Louis	2,069,426	1,982,653	2,251,807	2,174,170	1,548,363	1,555,502	703,444	618,668
Western Ry. of Alabama	178,842	136,880	213,466	178,461	74,617	74,801	138,849	103,660
Baltimore & Ohio System:								
Alton	15,977	920,648	101,223	1,005,084	1,825,939	1,915,992	*1,724,716	*910,908
Baltimore & Ohio	30,618,531	25,525,100	38,863,245	32,000,020	33,313,748	33,622,227	5,549,497	*1,622,207
Staten Island Rapid Transit	*288,982	*239,503	577,128	587,391	577,128	587,391	.....	.....
Bangor & Aroostook	843,435	945,739	888,765	1,007,469	763,232	791,848	125,533	215,621
Bessemer & Lake Erie	7,330,249	5,112,727	7,606,011	5,315,419	1,545,665	1,538,263	6,060,346	3,777,156
Boston & Maine	6,935,241	6,955,142	8,095,462	8,152,463	6,943,265	7,444,581	1,152,197	707,882
Burlington-Rock Island	*164,585	355	*162,908	2,763	786,423	787,192	*949,331	*784,429
Burlington Route:								
Chicago, Burlington & Quincy	13,082,778	12,270,452	14,153,310	13,405,417	9,760,446	9,744,078	4,392,864	3,661,339
Colorado & Southern	68,062	488,241	943,974	1,777,256	2,061,800	2,053,321	*1,117,826	*276,065
Fort Worth & Denver City	844,699	803,230	864,067	825,826	1,118,816	1,051,727	*254,749	*225,901
Cambria & Indiana	954,447	912,535	968,686	926,572	78,641	89,057	890,045	837,515
Canadian National System:								
Canadian National Lines in New England	*633,533	*626,911	583,178	615,524	572,402	591,056	10,776	24,468
Central Vermont	730,142	420,693	775,378	458,600	1,240,916	1,236,973	*465,538	*778,373
Duluth, Winnipeg & Pacific	34,584	*51,499	470,139	511,923	470,137	474,110	2	37,813
Grand Trunk Western	3,934,745	1,609,123	4,829,325	2,297,050	4,622,691	4,634,038	206,634	*2,336,988
Canadian Pacific System:								
Canadian Pacific Lines in Vermont	*482,468	*583,681	264,000	264,000	264,000	264,000	.....	.....
Duluth, South Shore & Atlantic[1]	279,722	83,087	295,439	97,544	932,924	942,578	*637,485	*845,034
International Ry. Co. of Maine	562,497	114,760	571,908	120,899	571,908	120,899	.....	.....
Minneapolis, St. Paul & Sault Ste Marie[1]	4,352,235	2,826,813	4,495,515	2,983,072	8,924,314	8,615,457	*4,428,799	*5,632,385
Spokane International[1]	150,095	96,238	165,639	109,254	300,126	275,348	*134,487	*166,094
Chesapeake & Ohio System:								
Chesapeake & Ohio	40,817,746	36,354,138	42,063,200	37,005,057	8,472,034	9,662,346	33,591,166	27,342,711
Erie (inc. Chicago & Erie)[3]	13,853,996	11,464,135	14,925,217	12,585,002	14,910,954	14,034,523	14,263	*1,449,521
New York, Susquehanna & Western[1]	439,084	264,337	509,945	338,706	656,865	654,631	*146,920	*315,925
New York, Chicago & St. Louis	8,492,405	8,437,279	10,831,084	10,548,397	7,220,255	7,177,195	3,610,829	3,371,202
Chicago & Eastern Illinois[1]	989,708	1,022,073	1,304,886	1,359,524	2,345,907	2,478,716	*1,041,021	*1,119,192
Chicago & Illinois Midland	1,269,177	924,597	1,279,057	932,687	402,867	471,394	876,190	461,293
Chicago & North Western System:								
Chicago & North Western[1]	10,094,500	5,722,260	11,535,814	7,495,288	16,758,183	16,605,156	*5,222,369	*9,109,868
Chicago, St. Paul, Minneapolis & Omaha	406,869	313,556	474,004	381,577	2,520,881	2,486,725	*2,046,877	*2,105,148
Chicago Great Western[1]	1,784,230	1,779,771	1,906,390	1,898,240	1,866,446	1,960,388	39,944	*62,148
Chicago, Indianapolis & Louisville[1]	1,329,102	404,425	1,425,166	490,072	1,538,866	1,551,119	*113,700	*1,061,047
Chicago, Milwaukee, St. Paul & Pacific[1]	13,845,644	8,124,194	14,987,869	9,556,094	23,814,391	23,983,477	*8,826,522	*14,427,383
Chicago, Rock Island & Pacific[1]	8,133,477	5,458,853	8,575,107	5,999,181	14,179,272	14,336,727	*5,604,165	*8,337,546
Columbus & Greenville	67,202	92,599	87,519	111,749	10,728	11,766	76,791	99,983
Delaware & Hudson	5,619,258	5,519,101	5,772,292	5,696,134	5,009,862	4,103,111	762,430	1,593,023
Delaware, Lackawanna & Western	6,736,538	6,028,688	8,122,127	7,378,541	7,916,850	7,887,526	205,277	*508,985
Denver & Rio Grande Western[1]	2,761,157	1,666,116	3,078,461	2,164,774	6,148,947	6,122,103	*3,070,486	*3,957,329
Denver & Salt Lake	911,293	800,866	919,368	808,678	910,064	806,858	9,304	1,820
Detroit & Mackinac	130,639	130,876	135,897	135,328	116,271	119,247	19,626	16,081
Detroit & Toledo Shore Line	842,634	624,927	908,145	647,261	193,708	132,614	714,437	514,647
Detroit, Toledo & Ironton	2,293,963	1,991,456	2,346,038	2,028,436	807,830	801,879	1,538,208	1,226,557
Duluth, Missabe & Iron Range	11,715,929	7,288,646	12,084,122	7,626,988	1,109,197	1,102,919	10,974,925	6,524,069
Elgin, Joliet & Eastern	4,884,588	3,315,466	5,086,571	3,493,903	1,496,335	996,854	3,590,236	2,497,049
Florida East Coast[2]	985,219	743,699	1,065,787	834,667	2,979,717	2,925,699	*1,913,930	*2,091,032
Frisco Lines:								
St. Louis-San Francisco[1]	5,395,121	3,886,751	5,559,002	4,035,817	12,705,605	12,789,934	*7,146,603	*8,754,117
St. Louis, San Francisco & Texas	*211,197	*96,547	*195,799	*80,382	58,455	137,636	*254,254	*218,018
Georgia & Florida[2]	*68,789	1,917	*56,340	14,319	704,556	687,908	*760,896	*673,589
Great Northern	21,807,064	19,584,595	25,025,203	23,712,243	14,817,009	15,025,818	10,208,194	8,686,425
Green Bay & Western	247,011	193,229	253,498	243,504	69,178	9,747	184,320	233,757
Gulf, Mobile & Ohio[4]	1,505,525	2,154,857	1,614,869	2,377,497	1,254,159	2,391,033	360,710	*13,536
Illinois Central System:								
Central of Georgia[1]	771,133	554,686	1,669,253	1,127,336	3,564,927	3,756,006	*1,895,674	*2,628,670
Gulf & Ship Island	*171,921	*257,223	*139,080	*232,293	60,818	65,512	*199,898	*297,805
Illinois Central	14,638,099	15,717,031	17,750,419	18,766,621	16,870,289	16,546,218	880,130	2,220,403
Yazoo & Mississippi Valley	2,121,051	2,096,097	2,262,649	2,184,499	2,262,649	2,184,499	.....	.....
Illinois Terminal	1,158,488	1,275,333	1,184,099	1,301,988	608,367	774,250	575,732	527,738
Kansas City Southern	3,420,042	3,157,032	4,039,181	3,526,855	2,906,868	2,732,536	1,132,313	794,319
Kansas, Oklahoma & Gulf	734,291	864,909	797,496	931,143	305,321	268,690	492,175	662,453
Lake Superior & Ishpeming	1,199,816	1,209,260	1,199,978	1,210,070	381	7,483	1,199,597	1,202,587
Lehigh & Hudson River	261,097	184,117	285,867	209,310	836	3,482	285,031	205,828
Lehigh & New England	1,197,280	1,235,324	1,219,674	1,257,971	375,631	396,244	844,043	861,727
Lehigh Valley	6,883,261	7,149,326	7,663,877	7,945,814	7,964,903	8,004,370	*301,026	*58,556
Louisiana & Arkansas	1,731,127	1,588,028	1,773,046	1,646,554	983,250	939,219	789,796	707,335
Maine Central	1,966,206	2,181,323	2,426,738	2,656,356	1,987,571	2,082,913	439,167	573,443
Midland Valley	346,446	398,230	464,416	493,497	459,949	466,820	4,467	26,677
Minneapolis & St. Louis[2]	1,390,058	1,046,545	1,451,094	1,116,468	2,971,739	3,030,624	*1,520,645	*1,914,156
Mississippi Central	*16,642	*8,072	*14,649	*5,323	130,716	130,714	*145,365	*136,037
Missouri & Arkansas	41,212	40,212	44,292	42,165	4,016	3,429	40,276	38,736
Missouri-Kansas-Texas Lines[5]	1,937,991	1,284,208	2,295,900	1,643,971	5,137,035	5,143,535	*2,841,135	*3,499,564
Missouri Pacific System:								
Beaumont, Sour Lake & Western[1]	431,525	434,993	434,618	437,871	174,758	174,801	259,860	263,070
International-Great Northern[1]	*34,529	*204,174	5,648	*156,861	2,815,955	2,813,538	*2,810,307	*2,970,399
Missouri-Illinois[1]	474,791	641,420	478,410	644,131	152,085	148,058	326,325	496,073
Missouri Pacific[1]	10,083,018	7,195,989	11,388,411	7,927,072	20,952,868	21,020,335	*9,564,457	*13,093,263
New Orleans, Texas & Mexico[1]	728,152	684,121	2,661,161	1,753,156	2,792,899	2,797,904	*131,738	*1,044,748
St. Louis, Brownsville & Mexico[1]	1,530,109	1,657,928	1,595,104	1,738,672	793,830	797,291	801,274	941,381
San Antonio, Uvalde & Gulf[1]	*396,601	*231,848	*387,320	*221,695	246,150	242,313	*633,470	*464,008
Texas & Pacific	4,875,692	4,365,221	5,494,808	4,953,170	3,931,480	3,992,570	1,563,328	960,600
Monongahela	1,430,896	1,254,230	1,449,175	1,266,902	636,645	639,749	812,530	627,153
Montour	875,040	843,516	879,330	847,817	53,698	87,515	825,632	760,302
Nevada Northern	239,815	225,509	247,491	236,588	684	1,101	246,807	235,487
New Haven System:								
New York, New Haven & Hartford[1]	9,274,354	8,462,922	12,010,903	11,254,391	14,014,078	14,168,505	*2,003,175	*2,914,114
New York, Ontario & Western[1]	*716,776	*496,675	*697,822	*464,068	1,367,922	1,418,716	*2,065,744	*1,882,784
New York Central Lines:								
New York Central[4]	44,052,437	37,303,427	62,235,553	54,196,848	50,970,469	49,687,612	11,265,084	4,509,236
Pittsburgh & Lake Erie	5,591,525	3,806,716	5,998,876	4,316,402	921,595	726,153	5,077,281	3,590,249
New York Connecting	1,451,881	1,318,029	1,479,143	1,342,326	1,279,333	1,326,580	199,810	15,746

* Deficit or other reverse items.
[1] Report of trustee or trustees.
[2] Report of receiver or receivers.
[3] Under trusteeship, Erie R. R. only.
[4] New organization: Represents merger of Gulf, Mobile & Northern and Mobile & Ohio Railroads. Figures cover all roads involved.
[5] Includes Missouri-Kansas-Texas R. R. and Missouri-Kansas-Texas R. R. of Texas.

Selected Income Items By Regions and Districts, Class I Steam Railways, 1940 and 1939—Continued

Region and railway	Net Railway Operating Income		Total Income		Total Deductions		Net Income	
	1940	1939	1940	1939	1940	1939	1940	1939
Norfolk & Western	$33,254,232	$31,659,216	$35,941,128	$34,399,614	$4,007,629	$3,810,299	$31,933,499	$30,589,315
Norfolk Southern[2]	247,605	350,933	433,496	531,320	899,042	884,583	*465,546	*353,263
Northern Pacific	13,583,074	10,479,237	17,394,523	14,827,848	15,330,430	14,754,195	2,064,093	73,653
Oklahoma City-Ada-Atoka	*17,523	57,447	*15,109	59,942	*7,831	38,971	*7,278	20,971
Pennsylvania System:								
Long Island	757,887	258,095	1,162,278	734,250	2,378,394	2,472,402	*1,216,116	*1,738,152
Pennsylvania	86,499,486	77,304,328	127,835,141	114,168,558	81,596,891	82,136,033	46,238,250	32,032,525
Pennsylvania-Reading Seashore Lines	*2,490,814	*1,812,029	*2,325,594	*1,634,172	1,088,497	1,069,645	*3,414,091	*2,703,817
Pere Marquette	4,063,208	3,352,085	4,602,388	3,712,648	3,349,321	3,384,492	1,253,067	328,156
Pittsburg & Shawmut	237,390	32,648	240,500	40,140	26,148	16,555	214,352	23,585
Pittsburgh & West Virginia	800,209	1,076,852	1,237,603	1,412,613	910,755	932,402	326,848	480,211
Pittsburg, Shawmut & Northern[2]	247,131	116,598	253,523	122,354	158,865	129,211	94,658	*6,857
Reading System:								
Central of New Jersey[1]	1,364,795	1,943,304	2,226,398	2,877,613	5,350,795	5,454,655	*3,124,397	*2,577,042
Reading Co.	13,460,806	11,931,004	15,456,287	13,852,816	9,029,070	9,131,165	6,427,217	4,721,651
Richmond, Fredericksburg & Potomac	1,075,988	1,214,911	1,299,396	1,432,862	323,616	343,525	975,780	1,089,337
Rutland[2]	*92,534	135,445	*45,012	191,588	410,805	412,790	*455,817	*221,202
Seaboard Air Line[2]	4,404,333	3,594,371	4,721,480	3,931,714	9,694,829	9,488,269	*4,973,349	*5,556,555
Southern System:								
Alabama Great Southern	1,697,157	1,768,249	2,884,209	2,665,640	545,681	554,589	2,338,528	2,111,051
Cincinnati, New Orleans & Texas Pacific	4,998,100	5,185,058	5,092,296	5,274,406	1,853,862	1,871,624	3,238,434	3,402,782
Georgia Southern & Florida	494,382	118,777	503,092	127,030	365,197	296,658	137,895	*169,628
New Orleans & Northeastern	675,770	503,713	701,153	529,419	390,098	395,827	311,055	133,592
Southern	21,457,294	20,631,130	24,175,465	23,891,553	16,823,393	17,403,827	7,352,072	6,487,726
Southern Pacific System:								
Northwestern Pacific	*361,703	*354,801	*327,213	*335,942	1,436,125	1,454,709	*1,763,338	*1,790,651
St. Louis Southwestern Lines[1 5]	2,795,591	1,142,599	2,874,465	1,223,105	3,123,223	3,241,426	*248,758	*2,018,321
Southern Pacific Co.	26,828,594	23,254,992	47,272,566	43,166,358	40,541,622	37,410,986	6,730,944	5,755,372
Texas & New Orleans	5,637,265	5,173,417	5,941,311	5,481,405	4,514,076	4,524,593	1,427,235	956,812
Spokane, Portland & Seattle	1,282,076	821,023	1,479,925	1,046,406	3,683,269	3,682,702	*2,203,344	*2,636,296
Tennessee Central	310,615	298,841	318,986	328,064	246,561	242,938	72,425	85,126
Texas Mexican	85,889	82,469	101,074	96,464	518,111	502,372	*417,037	*405,908
Toledo, Peoria & Western	329,802	442,984	352,023	457,984	71,201	74,588	280,822	383,396
Union Pacific	23,358,960	20,233,188	40,180,101	37,916,098	20,734,221	18,949,466	19,445,880	18,966,632
Utah	80,380	61,624	81,796	65,017	57,324	1,105	24,472	63,912
Virginian	9,675,197	9,028,510	9,781,104	9,109,876	2,499,369	2,353,279	7,281,735	6,756,597
Wabash System:								
Ann Arbor[2]	450,291	368,563	463,501	385,211	440,053	451,688	23,448	*66,477
Wabash[2]	4,553,345	3,559,246	5,188,628	3,993,788	7,524,527	7,535,972	*2,335,899	*3,542,184
Western Maryland	5,306,408	4,775,969	5,459,861	4,909,286	3,359,127	3,347,185	2,100,734	1,562,101
Western Pacific[1]	2,646,040	1,674,490	2,940,050	1,965,467	3,853,643	3,933,106	*913,593	*1,967,639
Wheeling & Lake Erie	4,344,733	4,083,761	4,514,422	4,226,895	554,793	648,612	3,959,629	3,578,283

* Deficit or other reverse items.
[1] Report of trustee or trustees.
[2] Report of receiver or receivers.
[4] Includes Boston & Albany, lessor to New York Central R. R.
[5] Includes St. Louis Southwestern Ry. and St. Louis Southwestern Ry. of Texas.

Transforms Old Freight House Into Modern Produce Terminal

(*Continued from page 519*)

exception to this general standard of construction is in the toilet rooms, the walls of which were faced with fireproof, hard-finish decorative wallboard and the floors covered with asphalt patterned tile.

General winter heating of the produce terminal is by means of a new boiler plant installed in the basement at the east end of the 30-ft. extension to the main building, which replaces two smaller boiler rooms in the building originally, one at each end. The new plant includes two reconditioned, horizontal water-tube, stoker-fired boilers, each of 150-hp. capacity. Coal is delivered to the plant in carload lots and is dumped directly into a concrete bin adjacent to the boiler room, from which it is trucked in two-wheel carts over an overhead platform and dumped directly into the stoker hoppers. Other equipment at the plant includes a chain hoist for removing clinkers in can lots to a platform at the street level, where they can be taken away by trucks.

Essential to the plan for taking over the old freight house for a produce terminal was the converting of the road's former produce house, immediately to the east, across Tenth street, into a freight house. This facility was a one-story brick structure, 180 ft. long by 68 ft. wide, which housed, completely out of the weather, two tracks with a combined capacity of seven cars, two car-floor-level platforms flanking the tracks, and a central, street-level truck-loading and unloading area. As remodeled for freight handling, the building was cut back approximately 40 ft. at its west end and was renovated generally, the latter work involving complete re-roofing with tar and gravel. Furthermore, the inside tracks were removed, one being realined and rebuilt to form a house track along the south side of the building, and a new concrete floor was provided throughout at truck tailboard height. In addition, sliding wood doors were installed along the new track side and new bi-folding wood doors were provided at each end above the platform level, replacing former trucking and track doors at the ground level. Still further, corrugated steel canopies were built over the truck loading and unloading areas at both ends of the building, and built-in rooms in a first-floor and mezzanine arrangement were provided to take care of the requirements for offices.

The improvements and alterations producing this modern produce-handling facility were approved by E. M. Durham, Jr., chief executive officer of the Rock Island; J. D. Farrington, chief operating officer, and Arthur Mackenzie, then general freight traffic manager of the road. The engineering was carried out under the general direction of W. H. Hillis, assistant chief operating officer, and A. T. Hawk, at the time engineer of buildings and now engineer architect, and under the immediate supervision of D. A. Ruhl, now engineer of buildings.

The carpenter, cement, excavation and brickwork in connection with the produce terminal were done by the R. C. Elvin Company; the heating and electrical work by Harris Brothers Plumbing & Heating Company; and the insulation of the various refrigerated rooms by the Insulation Sales Company, all of Minneapolis. The refrigeration installations were made by Westerlin & Campbell Co., Chicago. The structural steel of the warm house was furnished and erected by the Minneapolis-Moline Steel & Machinery Co., Minneapolis, while the enclosure and roof of this unit were made by the Truscon Steel Company, Youngstown, Ohio.

Why Freight Car Snubber Springs?

An explanation, in layman's language, of how spring snubbers operate to reduce car bounce

By Cyrus J. Holland

President, Holland Company, Chicago

IT is generally recognized that freight cars bounce, or vibrate, and a simple explanation of why and what can be done about it should be generally helpful. Bouncing, or vibration, is a form of motion. A vibration, in its general sense, is a periodic motion, namely, a motion which repeats itself after a certain interval of time, called the period of vibration.

Many bodies vibrate to and fro (forward and back, or up and down) with great regularity and with a definite period. Among these may be mentioned the oscillating pendulum, the swing and a spring. These bodies have what is called simple harmonic motion. A vibratory or oscillatory motion is a simple harmonic motion in which the restoring force and the acceleration are both proportional to the displacement, and oppositely directed.

As a definite example, consider a load supported by a spring in a vertical position. When the load is first applied to the free spring, it will cause a deflection in proportion to the stiffness of the spring. At this point the load will remain in equilibrium in that position, being balanced by the tension in the spring, the deflection being termed the "static displacement."

If, now, we pull the load down a certain distance from its rest position, a certain force will be required, and the spring will exert a similar force, which, upon releasing the weight, will push it toward its rest position. Due to the force in the spring the load will be pushed beyond its static or rest position, and the load will oscillate about this position with simple harmonic motion. Any simple harmonic motion will have an amplitude (the distance it moves above and below its equilibrium position), a velocity, and a period (the time it takes to make one complete cycle, or the movement from one extreme position to the other and back).

Such an oscillation is termed a free or natural oscillation, being started by an impulse, or the sudden addition or removal of a portion of the load. If the starting impulse is not again repeated, then these oscillations will continue until damped out by the friction in the air and in the spring. Friction, no matter how small, is always present, and such oscillations will be damped out in time. No substance is truly elastic, and the continual bending backwards and forwards will cause friction between its molecules, thus dissipating the energy in heat.

Suppose a swing; we give it one push. It will, for a time, swing a certain distance each side of its stationary or rest position, each swing becoming less and less until it stops. But, if we continue to push it regularly, at any time while it is going away from us, and we thereby add to its energy, it will swing higher and higher, until something interferes and limits the height to which it can go. The energy used up in its swing, plus the resistance of the interference, if any, must equal the energy put in.

The first supposition is a fair representation of what happens when an undamped spring-supported body encounters a single bump or hole in the road. The second supposition is a fair representation of what happens when railroad cars without snubbers travel at speeds such that the period of shock corresponds to the period of the springs. Car bouncing or oscillation is mainly caused by the rail joints. Rails are of regular lengths, say 33 ft. or, 39 ft. long, which means that the distance between joints is equal and regular. Therefore, when a train is running at a constant speed, the wheels strike the rail joints in regular intervals of time, known as the "period." For instance, on 33-ft. rail at 35 m. p. h. we pass 187 joints per minute. Divide this by 60 and we have 3.1 joints per second. Divide one second by 3.1 and we have 0.32 sec., which is the period. In other words, the time between joints on 33-ft. rail at 35 m. p. h. is, approximately, one-third of a second. At 60 m. p. h. the period is approximately, one-fifth of a second. When the period of shock is in step with the period of the spring, we have what is called resonance, or a critical frequency.

A solid body free in space is capable of executing six different possible motions, three translations and three rotations. It can bob up and down (bounce), sway back and forth (lateral), and move forward and back (longitudinal), the three translations, and it can roll about a longitudinal axis, pitch about a lateral axis, and nose about a vertical axis. A freight car has three such bodies, the body and all parts above the springs, the parts of the truck below the springs at the A end, such as the truck frames, axles, wheels, etc., and the same truck parts at the B end. Together these three bodies are capable of executing 18 different possible motions, but only one of them is of any importance from the standpoint of the ability of the truck springs to do a better job, viz., bouncing. This is because the truck bolster which transmits the weight of the car body to the truck springs, so far as the effect of movement is concerned, is restrained by the truck-frame guides to an up and down motion only.

The period of vibration of a weight on a spring depends only on the static deflection of the spring.

A load supported by a steel helical spring can be considered to be entirely without damping.

Stiffness and Periodicity Vary with Load Deflection

The 1915 A. A. R. standard double-coil truck spring is considered to have a solid capacity of 16,000 lb. Its total travel is considered to be $1\frac{11}{16}$. Dividing 16,000 by 1.6875, we get 9,481, which, for convenience, we generally put into round figures, making it 9,500.

Now, 9,500 lb. is the strength of the spring at 1 in. deflection, or 1 in. static displacement. In other words, the strength of a spring at 1 in. deflection is a measure of the stiffness of a spring, sometimes called the spring rate. This gives us a measuring stick by which we can compare the stiffness of one spring with the stiffness of another. Let's see how it works.

But, first, let us make it represent the strength of one 50-ton A. A. R. spring group by multiplying it by four.

Then the stiffness of this spring group is 38,000 lb. per inch, which, incidentally, is the maximum load which this spring group is designed to carry. It is true that this spring group carries not only the maximum load, but a great variety of other lighter loads, the lightest being that of the empty car, and the portion of the weight of the empty car supported by this spring group is, roughly, 9,500 lb., which weight deflects this spring group about ¼ in. To provide the same cushioning value in the springs for the empty car as we have in the case of the fully loaded car we should have 1 in. deflection, whereas, we have only ¼ in., so this group of springs is four times as stiff under the empty car as it is under the fully loaded car. Of course, it is not practicable, in a freight car, to match the spring against each different load that the car may carry, but the springs must be capable of carrying the maximum load, first, safely, and secondly, with the best cushioning possible. The A. A. R. Mechanical Division Report, dated April, 1940, on "Tests of Trucks for High Speed Service," makes the following statement in the Summary of this report, page 193, paragraph 2:

One of the outstanding facts developed in these tests is that snubbers which have proven to solve the problem of controlling oscillation at speeds below 60 m.p.h. are of little, if any, value at speeds above 60 m.p.h. The reason is easy to understand. The oscillation that occurs at speeds below 60 m.p.h. builds up from small impulses regularly repeated, while the troubles experienced at speeds above 60 m.p.h. come from individual track irregularities each one of which produces a very damaging shock unless the spring system is capable of modifying it. The usual snubber is something which is placed under the truck bolster to absorb energy during movement of the spring group. Its very presence in the spring system makes the springs more sluggish in their operation and this is the last thing desired in high-speed trucks. Spring systems for high speed trucks must be lively and capable of making the wheels follow the rails with as little variation as possible in the wheel pressure on the rail. After passing over a track irregularity they must quickly return to their neutral position so as not to be in an unfavorable position when the next irregularity is reached. There must be a certain amount of absorption in the spring system to dampen motion quickly and to take care of the periodic impulses encountered at lower speeds, but the degree and character of this absorption must be kept within much narrower limits for high-speed trucks than for low-speed trucks. The first action of a spring system in passing over a low spot at high speed is to open rather than to close, and any interference with this action is detrimental.

Flexibility for High Speeds Vs. Damping for Critical Speeds

When the period of shock corresponds to the period of the spring, vibration becomes a maximum. As an example, take a weight supported by a spring, the spring being supported by wheels that run over a wavy road. The spring will vibrate up and down with the road surface. The faster the wheels travel, the faster will be the vibration. When the frequencies coincide, we have the critical frequency, or resonant frequency, and then the force will always act in the direction of motion, and never against, so that energy will continually be added to the vibrating system, causing the amplitude to increase until the elastic limits of the constraints are passed, unless limited by the spring going solid (which it will do under a group of plain springs that are reasonably soft), or, by throwing the load off the springs, (which will happen if the spring is reasonably stiff), or, by friction. A spring that is too stiff will increase the transmission of vibration.

At still higher speeds, where the periodic force or shock becomes faster than the natural period of free vibration, the vibration decreases until at very high speeds, the weight will travel smoothly in an almost straight line, and all the road irregularities will be taken up in the spring, because then the inertia of the weight becomes so great that the weight cannot follow the vibrations of the spring, and under that condition the load remains almost stationary.

The latter appears to be an ideal condition. To attain such a condition the spring or springs must be designed to have a natural period of free vibration (natural frequency), that is less than 70 per cent of the period of the forced frequency. How can we do so with a vehicle that carries a variety of loads (a difference of 400 per cent from empty freight car to fully loaded car), and that moves at speeds all the way from zero to 60, and in the not very distant future up to 85 m. p. h.? A freight car has a wide range of critical speeds, varying for 33 ft. rail from 35 m. p. h. for a fully loaded car, (assuming 1 in. static deflection) to 70 m. p. h. for an empty car, (assuming ¼ in. static deflection), and for 39 ft. rail, from 41 m. p. h. for a fully loaded car (again assuming 1 in. static deflection), to 83 m. p. h. for an empty car (again assuming ¼ in. static deflection). It cannot be done. Therefore, we must consider means to prevent the vibrations from becoming excessive. Again, referring to the A. A. R. Mechanical Division Report of "Tests of Trucks for High Speed Service," on page 186, paragraph 2, we find the following:

It so happens that the critical speed of average freight cars so far as wheel action is concerned is somewhere around 25 m.p.h. It is rather narrow in range, sometimes being only about 2 m.p.h. wide. Its location and narrow range make it unimportant from an operating standpoint, but this statement does not mean that it can be ignored. The critical speed from rail joints is somewhat higher than from wheels, and is wider in its range. It may be as wide as ten m.p.h. and seems to occur at speeds between 40 and 50 m.p.h. Because of its width its effect may be felt at speeds from 35 m.p.h. up to 55 m.p.h., depending upon the load in the car, and sometimes at even higher speeds. Stiff springs and light loads cause it to occur at higher speeds. The effect which this critical action produces on the car body depends upon the amplitude of spring oscillation which is built up. If this is large a heavy shock may be produced by each bounce. The amplitude of oscillation will build up until it is sufficient to absorb the energy delivered to the car body by the wheel or rail-joint disturbance. Fortunately, it can be reduced by using springs which have a higher energy absorbing rate than plain coil springs. There are a number of designs of friction springs or snubbers that have proved adaptable for this purpose. Every truck in this test, with the exception of the A. A. R. truck, had some device incorporated in the spring suspension to raise the energy absorption rate to take care of this critical action. There is doubtless some minimum energy absorption rate which will satisfactorily control this action, and experience points to a figure of about 20 per cent absorption. It should be mentioned that if the absorption means unduly increase the stiffness of the spring system more harm than good may be done.

How Can Vibration Be Controlled?

There are certain main methods by which we can eliminate, or reduce vibration in a structure, among which are: (1) remove the disturbing force; (2) introduce an equal and opposite disturbance; (3) avoid resonant conditions; (4) introduce or increase damping. Considered in relation to freight car vibrations, if (1) is possible, we do not yet know how to do it at a reasonable cost; (2) does not appear feasible; if (3) is possible, we do not yet know how.

So, it appears we are restricted to (4) damping. Now, damping is a technical term, which means the same thing as snubbing, as that word is now used with reference to freight-car truck springs. The addition of damping to a spring support produces an effect which varies with

the ratio of the forced frequency to the natural frequency. This can be understood from the fact that a very heavily damped (snubbed) spring is practically a rigid support. In other words, a heavily damped spring means a very siff acting spring support. For forced frequencies, near to and coinciding with resonant frequencies under the conditions existing in freight cars, damping is necessary in order to keep the forced vibrations from becoming too large, which they will do at any resonant or critical speed. For forced frequencies greater than 1.41 times the natural frequencies, damping increases the transmissibility of vibration, and is detrimental unless it is required for some other reason. That statement means that any damping arrangement increases the stiffness of the spring support, or, stated in another way, we may say—If a Snubber, included in the spring group, or a stabilizing device incorporated in a truck, makes the spring group too stiff, the shocks from wheels or track will be transmitted directly to the lading because of lack of cushioning efficiency in the spring support. Of course it is not feasible to put the damping device in a freight car when resonant speeds are reached, and take it out when not running at resonant speeds. As stated above, freight cars have a great variety of resonant speeds ranging from 35 m. p. h. to 70 m. p. h. on 33-ft. rail, and from 41 m. p. h. to 83 m. p. h. for 39-ft. rail, and at resonant speed, damping or snubbing is absolutely necessary.

So, we have determined that a Snubber or Stabilizing Device is just as essential in a freight-car truck as a shock absorber is on an automobile. Are there any limitations in regard to the characteristics of such devices, or will any kind of a snubber or stabilizing device be satisfactory?

Any kind will not be satisfactory. Any damping or stabilizing increases the stiffness of the spring support, and, much as we would like to do so, it is impossible to transport freight cars without running at resonant speeds. In the neighborhood of resonant speeds, damping or stabilizing is absolutely necessary. Below and above the neighborhood of resonant speeds, damping or stabilizing is detrimental because it makes the transmissibility worse. Therefore, the snubber spring or stabilizing device should be such that transmissibility is increased by the least possible amount. That requires that the damping means must not have a high starting effort, and it must not build the resistance up too rapidly. It must have a soft, not a harsh, starting resistance, and must build up further resistance smoothly, not by rough, jerky movement. Such a damping device will operate under light, as well as under heavy loads, and, inasmuch as energy is being dissipated by friction (wear), the damping mechanism should have large friction areas and low pressures per square inch.

When damping is added to the spring support, we can make the spring support softer, as is evidenced by the thousands of freight cars originally equipped with A. A. R. standard 50-ton four double-coil springs groups, in which one standard double coil was removed and replaced with a snubber spring. The dynamic lift capacity of a plain spring is the same as its static lift capacity, but that is not true of a snubber spring that has to fit in the same space occupied by the plain spring. You cannot get as much spring steel into such a snubber spring. Some of the space is required for the friction elements. If, now, we slowly let a load down on a group of springs (one of which is a snubber spring), it will carry that load at a certain riding height almost indefinitely if it is not disturbed. But, if it is subjected to vibration, it will settle to a lower height, and that lower height is its dynamic lift capacity. No snubber spring now on the market has a dynamic lift capacity as great as the 1915 A. A. R. outer coil, although the shock capacity is always greater, and in some cases considerably greater. The shock capacity, of itself, does not tell the whole story. The manner in which it does its work is just as important.

Damping devices for freight cars use the dry friction principle because of simplicity and cost, whereas damping devices for automobiles use the viscous friction principle. Any dry friction damping arrangement that approximates viscous friction seems to approach the ideal for freight cars.

Snubbers on Open-Top Cars

Some railroads seem to think that snubber springs are unnecessary on cars carrying coal, sand, stone and similar commodities, probably because snubbers were originally recommended to reduce damage to lading. Bouncing cars also damage themselves and the right of way over which they travel. An inspection of the truck springs on cars carrying such loads will determine if snubbers are needed.

As stated previously, a car carrying the maximum rail weight with a spring deflection of 1 in. will bounce to the point of going solid at 35 to 40 m. p. h. on 33-ft. rail and at 41 to 46 m. p. h. on 39-ft. rail. If the springs go solid the coils will bump each other on a line contact and the coils will show evidence of having gone solid, and, under such circumstances, instantaneous forces of high magnitude are carried through the truck frames, journal boxes, wedges, brasses, axle journals, wheels, and finally to the track. Truck frames, axle journals, etc., are not designed to take such shocks. Therefore, if an inspection of the springs on cars carrying coal and similar commodities shows that they are going solid, such spring groups should be equipped with snubbers. Lighter loads that do not drive the springs solid show the result of violent bouncing by disturbance of, or, damage to, the lading.

Can America Afford "Super-Streets"?

"ARTISTS have painted us beautiful pictures of the cities of the future, with their towering pinnacles and connecting skyways along which are to flow myriads of individual automobiles. We have been carried along by these attractive products of our imaginations to the point where huge outlays for street improvements have been undertaken. In specific instances they may or may not have been justified and wisely planned. Accordingly, many cities have been disturbed to discover that such projects have a baffling way of becoming loaded beyond capacity almost as quickly as they are completed."

Imaginative Artists as Propagandists

So does the American Transit Association (spokesman for the country's urban and suburban bus and electric railway companies) interpret the familiar futuristic drawings of Sunday newspaper supplements in a 33-page booklet entitled "Moving the Masses," recently issued to acquaint the public with the facts of individual—vs.—mass transport in urban areas.

The current mania for million-dollar-a-mile superstreets in big cities is the result of: (1) propaganda by

automobile manufacturers who, finding present markets saturated, want to "sell" the urban areas where per capita car ownership is low; (2) more of the same by road builders, construction companies, etc.; (3) the understandable desire of urban dwellers to enjoy the convenience of their own car; and (4) the efforts of the city fathers to exploit this sentiment politically. All parties in interest cited ignore the question of comparative costs between individual and mass transportation. Also they have failed to determine whether we can provide enough super-roads to handle all intra-city traffic at peak hours without tearing down cities and "starting all over again." More significant is the fact that the full benefits of recent improvements in mass transportation are not realized because, as the booklet points out, "the public transit user and the company which serves him are all too frequently left to shift for themselves while public attention and public funds are devoted to improvements for the automobile driver."

Threat Also Affects Steam Railroads

This threat to urban common carriers affects the steam railroads also. Directly, such super-highways threaten largely to destroy their suburban traffic and render valueless expensive terminals and multiple-trackage built for rendering this service. There are also the indirect consequences: (1) The phenomenal costs of rebuilding cities will be borne by property holders therein, of whom the railroads stand near the top of the list. (2) Elevated super-streets will provide private cars, competing long-distance buses and, in some cases trucks, with free, fast routes through urban areas. (3) Decline of urban common carriers will present problem to railroads of getting their passengers to and from stations. Poor local bus or trolley service would drive prospective steam road patrons to use their own cars for the entire journey.

Pointing out that the aim of city transportation is the movement of people—not vehicles—the A. T. A. booklet contains a number of graphs and diagrams which illustrate the passenger-carrying capacities of buses, street cars and private automobiles as related to street space. The capacity of one lane of street cars on a surface street is about five times that of a lane of automobiles on an expensive elevated highway. Should the railway likewise be afforded a grade-separated structure, its lane capacity would be 7½ times that of the elevated highway. A four-track rapid transit subway in New York carries normally 120,000 persons per hour in each direction with ease. It would require 20 four-lane elevated highways filled to capacity with private cars to move 100,000 persons per hour. And these comparisons make no allowance for parking requirements.

No Thought for the Non-Auto-Owning Folks

The interests of the great mass of non-owners of automobiles in the cities have been sacrificed to the "carriage trade." As the booklet points out, "compared to the cost to a community of rebuilding itself for automobile travel, the economic advantage is all in favor of whatever public expenditures may be necessary to achieve a really acceptable standard of service on public carriers." The problem of vertical transport in big cities has been solved because "we plan and erect buildings, including elevators, as private enterprises;" the owner of a building, for economic reasons "takes into account, as part of his building's facilities, the construction and operating cost for the elevator system which must be provided." But the responsibility for horizontal transportation lies with the whole community, which lacks authoritative information and is led by its own impracticable desire and certain pressure groups to **assume that we shall all ultimately move about in private automobiles.**

That "sick cities" are the result, in part at least, of undue emphasis upon the provision of expensive facilities for private automobiles, is the conclusion of John A. Miller, editor, "Transit Journal," in an article appearing in the February issue of that paper. His "Cities on the Toboggan" analyzes the problem of declining city populations as indicated in the 1940 census; of blighted areas in central urban zones and attendant declines in real estate values. Heavy expenditures for super-streets and arterial highways boost the total tax load on city property. But fewer and fewer people remain to share it. Meanwhile formerly valuable property becomes "acres of parking lots."

Mr. Miller presents simple mathematics to show what it would cost a city the size of Indianapolis to meet its daily transportation needs entirely with private automobiles on four-lane super-highways. Some 20 of the latter would be necessary. Hypothecating, for conservatism, a length of only 10 mi. for each, brings the cost estimate to not less than $600,000,000. For 400,000 inhabitants that means an average of $1,500 for every man, woman and child in the city, a cost considerably in excess of the present per capita *value* of all real estate in the city. And this study takes no account of cost of parking space, which is a necessary part of a private transportation program.

"Super-Streets" Put Blight on Cities

A similar viewpoint on our sick cities is expressed in a recent article in the "Public Utilities Fortnightly" by E. F. Downs, a consulting engineer and statistician of Chicago. "In present city planning, why should preference be given to the one-quarter who drive, while the interests of the three-quarters using public transportation are neglected?" he asks. "In some cities the efforts of planners are devoted to relieving motoring difficulties of suburbanites. In Chicago, both the city engineers and the PWA fastened a super-highway tail onto the public transportation dog, refusing to acknowledge that the two media are competitive."

The economics of the situation are totally ignored by the "planners." "Public transportation," Mr. Downs writes, "still stands a fighting chance to be self-supporting if given a little encouragement. Even if subsidy be given to aid it, the job can be completed without continuing drain on the taxpayer. Streets, on the other hand, provide an inexhaustible pork barrel of maintenance and reconstruction, and the users never support these facilities."

The mania for super-streets is at the bottom of the cities' plight. (1) Super-streets mean taxes; (2) taxes drive people to low-tax suburbs; (3) these lack public transportation so suburbanites must commute by automobile, congesting city streets; and (4) remaining city dwellers must pay for more and better "arterial" highways to relieve congestion. And so the vicious circle goes.

The 'twenties, says Mr. Downs, were the era of street widenings. Promised appreciation in real property values did not result; the fine wide arteries backfired, for they encouraged city dwellers to "emigrate." Now comes the era of federal aid for superhighway schemes. "The *general taxpayer* has been substituted for the real *property owner* as the sacrificial lamb. Otherwise, the drama remains unchanged,—dissipating public funds."

Motor Transport Section

Dominion Atlantic Truck Substitution Serves Two Functions

Replaces local freight trains and also performs pick-up and delivery work without extra handling

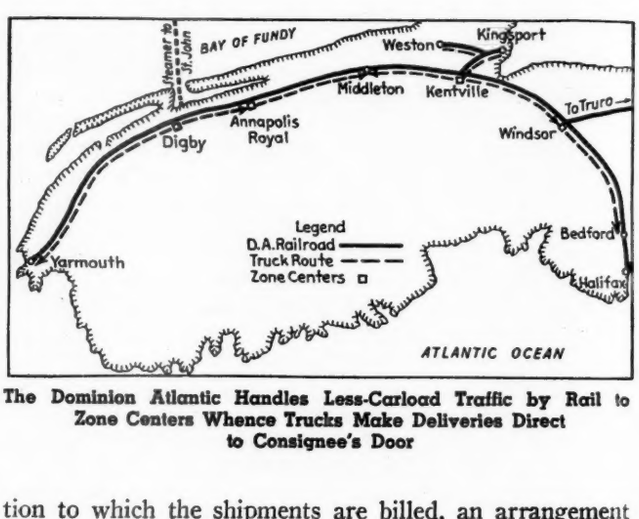
THE Dominion Atlantic has substituted motor trucks for virtually all local merchandise way cars on its system, with substantial savings in operating costs, speeding-up in transit time and the performance of store-door service at little additional cost. This road, a separately-operated subsidiary of the Canadian Pacific, runs between Halifax and Yarmouth along or near the Bay of Fundy shore of island-like Nova Scotia. Connection with the "mainland" is provided via a Canadian Pacific steamship line across the bay to St. John, N. B., and inter-line via Truro and the Canadian National's all-rail line. The bulk of l. c. l. traffic on the road is inbound from interior commercial centers and reaches the Dominion Atlantic via boat from St. John to Digby.

In seeking to meet truck competition on a paved highway paralleling its entire line, the road, for experimental purposes, discontinued operation of tri-weekly way freight service between Kentville and Annapolis Royal for 11 weeks in June, July and August, 1938, and substituted service by a contract truck operator working on a per-mile cost basis. Resultant savings in operating costs amounted to more than $200 a week, or a total of $2,640 for the period. The success of the experiment led to the abandonment of all way freight trains between Yarmouth and Kentville on May 1, 1939, and the use of truck service in substitution. Savings from some 7½ months' experience with this arrangement have totaled approximately $2,000 per month.

Operations Simplified

Just at this time the road was confronted with new competition by the establishment of a private truck service between Halifax and Yarmouth. To meet this it was concluded that it would be necessary to (1) speed-up l. c. l. freight service; (2) establish pick-up and delivery service; and (3) "get on oar in" on the highways of Nova Scotia so as to have "grandfather" status if and when highway freight carriers come under regulation by the Public Utilities Board of the province. Inasmuch as the situation was urgent, quick action was taken and almost universal p. & d. established, effective September 1, 1939.

Freedom from the usual station-to-station restrictions placed on railroads in the United States by the Interstate Commerce Commission in authorizing truck operations in substitutions for trains, enabled the Dominion Atlantic to combine its substitute service and pick-up and delivery in one operation. Thus it makes delivery by truck direct from its break-bulk zone centers to consignees' doors without handling at the local freight station to which the shipments are billed, an arrangement recommended by Co-ordinator J. B. Eastman in his merchandise traffic report and by the American Association of Railroad Superintendents at a number of recent conventions.



The Dominion Atlantic Handles Less-Carload Traffic by Rail to Zone Centers Whence Trucks Make Deliveries Direct to Consignee's Door

During September, the first month of operation of the combined local and pick-up and delivery service by truck, revenue on l. c. l. freight received at Dominion Atlantic stations accruing to that railway and the Canadian Pacific totaled $32,909, as compared with $28,984 in September, 1938, an increase of 13½ per cent. October showed an increase of 25 per cent in revenue, and a steady increase in both out-bound and in-bound l. c. l. traffic and revenues has been enjoyed to date. In January, 1940, when total freight revenues of the Dominion Atlantic declined 15.9 per cent from those of a year ago, revenue from l. c. l. alone showed an increase of 45.8 per cent and merchandise traffic increased 51.3 per cent. Likewise l. c. l. revenues in February showed an increase of 40 per cent over the same month in 1939 and l. c. l. traffic, 54.3 per cent, in the face of a decrease in *total* freight revenues over the same period of 2.5 per cent.

Heavier Car Loading

Statistics tell the story of heavier loadings per car, reduced overtime and changed characteristics of train operation. In April, 1940, for example, the Dominion Atlantic had 23 tons of freight per loaded car mile, as compared with 19.2 tons in April, 1939 (before present truck service was started). Overtime engine crew hours per 1,000 train miles were reduced 61.2 per cent and train

crews 52.1 per cent, respectively, from the year before. In April, 1940, way freight train-miles were 25.5 per cent of through freight train-miles, as compared with 851.6 per cent in April, 1939. Similarly, way freight train-hours were 36.3 per cent of through freight train-hours in April, 1940, as compared with 1,984 per cent in April, 1939. The average loading of freight and mix trains increased 10.5 per cent and gross ton-miles per train-hour rose 79.3 per cent.

The Dominion Atlantic now operates its highway truck routes from four zone centers as follows:

Zone Center	Distributes to Consignees at Stations From	Route Miles
Windsor	Falmouth to Bedford	38
Kentville	Kentville to Mt. Denson	25
Kentville	Kentville to Weston	19
Kentville	Kentville to Kingsport	16
Kentville	Kentville to Middleton	31
Annapolis	Annapolis to Brickton	16
Digby	Digby to Upper Clements	16
Digby	Digby to Hebron	63

Certain trucks at all the above stations, as well as two trucks at Yarmouth, five at Halifax and several at Truro, perform local pick-up and delivery service only. The Dominion Atlantic operates over the Canadian National between Halifax and Windsor junction, near Bedford; hence it operates no truck service beyond the latter point. Some of the vehicles assigned to these runs are operated under contract while others are run by the railroad-affiliated Canadian Pacific Express Company. They have capacities of 1, 1½ and 2 tons.

Cars of inbound merchandise are made up at Digby for Yarmouth, Annapolis, Kentville, Windsor and Halifax and at Halifax for Windsor, Kentville, Annapolis, Digby and Yarmouth and merchandise originated on the system is placed in cars set out at Yarmouth, Annapolis, Kentville and Windsor for Digby and Halifax. A way car continues to operate between Kentville and Truro, an interchange point with the C. N. R., serving intermediate stations on the branch from Windsor. Eastbound merchandise cars are handled on fast-freight train No. 100 leaving Yarmouth and 6:30 p. m., and arriving at Halifax at 6 a. m. and westbound on train No. 99 leaving Halifax at 8:30 p. m., and arriving at Yarmouth at 7:30 a. m., both daily except Sunday. The distance between the termini is 217 miles.

Operations at Kentville, operating headquarters of the Dominion Atlantic and zone center for four truck routes, illustrate the co-ordinated merchandise service. Merchandise cars from the east are set off at about 12:30 a. m., and from the west at 2 a. m. Three freight handlers assemble the inbound shipments for the trucks, one reporting at midnight, another at 1 a. m. and the third at 3 a. m. The latter also prepares consignees' advise slips. The Middleton truck reports at 6:30 a. m.; the Mt. Denson truck at 7 a. m., the local pick-up and delivery truck at 7:30 a. m. and the Kingsport-Weston truck at 9 a. m. These vehicles make deliveries direct to consignees along their routes. Drivers collect freight charges when possible and turn them into the local freight stations. When this is inconvenient, bills are left with the agents for collection. Advise notices are prepared in triplicate, one page being a bill left with the consignee, and another an acceptance notice signed by the consignee and delivered by the driver to the local freight agent. The third page is a standard advise notice for use by the local agent if original delivery of the shipment by the driver should be impossible.

An interesting angle of the Dominion Atlantic operation is that the road is able to give all-year service, while private truckers are forced to suspend operations for a portion of the year. In the spring thaw, the province limits the weights of all trucks operating outside of town limits to 1½ tons, to protect the roads and independent truckers simply quit for the period. The railroad, however, continues to operate whatever trucks of 1½ tons or under that it owns or can lease, while it uses the few 2-ton trucks in its co-ordinated service in local pick-up and delivery work where the weight restriction does not apply.

This Two-Ton Truck Is One of a Number Handling Pick-Up and Delivery and Over-The-Road Freight Services For the Dominion Atlantic at Kentville, N. S.

I. C. C. Takes Shackles Off R. R. Use of Trucks

IN a precedent-making decision, the Interstate Commerce Commission has set forth the right of the railways to handle by highway truck freight that has not previously or will not subsequently receive a rail haul. This stumbling-block to rail-highway co-ordination was removed in case MC-61438 which refers specifically to the Kansas City Southern Transport Company, but also embraces cases of the Seaboard, the Chicago, Rock Island & Pacific and the Louisville & Nashville. This involves a reconsideration of what has come to be known as "Condition 3," which reads as follows:

"Shipments transported by applicant shall be limited to those which it receives from or delivers to either one of the railways under a through bill of lading covering, in addition to movement by applicant, a prior or subsequent movement by rail."

This clause has been a powerful deterrent to the spread of rail-highway co-ordination, since it forced the railways to supply both way-freight and truck service on certain sections of their line if they wanted to go into the truck business at all. The decision is quoted in part below:

"Except for the representative of the Brotherhood of Railroad Trainmen, no one at the oral argument questioned the finding in the prior reports that public convenience and necessity, in the circumstances disclosed of record, require a co-ordinated rail-motor service in the movement of less-than-carload traffic, and his expression of opinion to the contrary has no support in the evidence. We are persuaded that the finding of division 5 in this respect was justified, and also its further finding, upon the records in those cases, that the motor portion of such co-ordinated service could most efficiently and effec-

tively be supplied either by the rail carriers themselves or by motor carriers under their control, rather than by existing independent motor carriers. As stated, the representatives of the latter urge that, if the railroads would co-operate with them, the desired co-ordinated service could be adequately provided by the use of existing facilities and without the grant of any new operating authority. This contention was sufficiently discussed by division 5 in the prior reports.

"As pointed out in the leading case, 10 M. C. C. 221, we are without jurisdiction to compel co-ordinated service between carriers by rail and carriers by motor vehicle; it could only be accomplished through the medium of through routes and joint rates; we have no power to require their establishment, and accordingly any such plan of co-ordination must depend upon voluntary co-operation; and the protesting motor carriers had not developed any such plan nor indicated what general form it might take. It was found that co-ordinated service through the voluntary co-operation of all or some of the existing motor carriers would not be practicable, for reasons amply stated, and that the useful public purpose which the proposed operations of applicant would serve could not effectively be achieved through the use of existing facilities. It was further found, and properly we think, that the development of the co-ordinated service would not seriously endanger the operations of existing motor carriers, but that, in any event, the public ought not to be deprived of the benefit of an improved service merely because it might divert some traffic from other carriers, pointing out that had that principle been followed no motor-carrier service could have been developed.

RRs Must Handle L. C. L.—Why Not By Most Economical Means?

"The traffic under consideration, which is chiefly so-called package or merchandise freight in less-than-carload quantities, is, of course, traffic which the railroads are and have been under an obligation to transport and which they will continue to transport whether we grant or deny the applications. In so far as such traffic can be moved in well-loaded cars on through trains which serve only the larger points, it can be handled efficiently by rail, and the railroads have no need to substitute truck service for such rail service. The way-freight train service which is used in serving the smaller stations is, however, uneconomical and inefficient, and trucks can be used in substitution therefor to much advantage, both to the railroads and to the public served. Division 5 found in 10 M. C. C. 221, and we agree, that reduction in the cost and increase in the efficiency of transportation service inure to the benefit of the general public and are required by public convenience and necessity.

"Applicants now point out that condition 3 prevents the full accomplishment of the purpose which the substituted truck service is intended to serve, because the terms of that condition make it necessary to continue to maintain way-freight train service for the handling of traffic between various stations. Under condition 3, truck service may be used between such stations in connection with a prior or subsequent movement by rail, but not otherwise, notwithstanding that the truck service could readily accommodate all the traffic. Manifestly this seriously limits the benefits in economy and efficiency of service which the substitution of trucks is intended to produce.

"Division 5's thought in regard to this matter was that public convenience and necessity required a co-ordinated rail and truck service, which, upon the records of the cases before it, could only be furnished efficiently and effectively by conducting the two forms of transportation under a single control, but that there was adequate independent motor carrier service between all stations, generally speaking, so that public convenience and necessity did not require the institution between the stations of new motor carrier service under railroad control which is not co-ordinated with prior or subsequent rail service. Hence condition 3. Upon further consideration we are of the opinion that the division gave insufficient weight to the fact that the railroad, as well as the independent motor carriers, has been and is furnishing service between the stations, but that between many of them the present means of railroad service, the way-freight train, is uneconomical and inefficient.

No Carrier Has "Vested Right" in Rival's Inefficiency

"This is the reason for co-ordinating truck service with the rail service, and as we have found (and as division 5 also found), public convenience and necessity require the increased economy and efficiency which will result from such substituted use of trucks. By the same reasoning, however, public convenience and necessity require the substitution of trucks for way-freight train service, regardless of whether there is a prior or subsequent movement by rail. Such substitution is a part of the plan of co-ordination, and unless it can be accomplished, the full benefits in increased economy and efficiency which the public interest demands cannot be secured.

"It must be borne in mind, as above indicated, that in all of these cases the railroad has been and is transporting the traffic in question between its stations and is under obligation to continue to do so. What it is seeking is not to enter a new field of service but to substitute a more efficient for a less efficient *means* of service. In both its direct and its indirect effect, such substitution is in the public interest. An illustration which will come readily to mind is the widespread substitution in recent years of buses for rail service by local transit companies. One competitive carrier has no vested right in the continuation by another of an inefficient method of operation, and we believe it to be neither the policy of Congress nor the proper function of this Commission to retard any form of progress in transportation which will serve the public interest."

The Commission further points out that, by the removal of this restriction, it is not intended that the railways establish all-truck lines in competition with existing highway carriers. It simply recognizes the right of the carriers to use truck service only between certain stations where way-freight service would involve a duplication of effort and extra expense.

The American Trucking Association used this case to try to force the railways to use independent motor operators instead of their own trucks or their own contract truckers. The railways protested strenuously against this as a mere subterfuge to force the establishment of joint rates between the railways and the truck lines, and won their point. Among other things, in the specific operation of the L. & N. involved in this case, the costs were way out of line as compared with the rates quoted by the Railway Express Agency, which will operate this particular new service.

This decision of the Commission will have far-reaching effects and be particularly helpful in promoting additional rail-highway co-ordination. It was concurred in by a majority, with Commissioner Lee dissenting in part, in which stand he was supported by Commissioner Rogers.

NEWS

Post War Public Works Planned

New Deal agency gets ready to spend country into prosperity when war is over

Where future expenditures on railroad equipment and facilities "may be more compulsory from the viewpoint of national defense or social objectives than from the viewpoint of carrier profitability," such federal-government action as "may be deemed necessary" may take the form "of further loans or grants, or even public ownership of certain facilities," according to a statement in a National Resources Planning Board report outlining a six-year program of public works which would constitute a "shelf" or "reservoir" for use in connection with "post-emergency adjustments." President Roosevelt transmitted the 101-page report to Congress on March 17.

Inquiry at the Resources Board's Washington, D. C., headquarters as to the intended meaning of "even public ownership of certain facilities" brought forth a response to the effect that the phrase would have to be interpreted by the questioner in the light of its present setting in the report. The phrase is in a sub-section entitled "Transportation Needs and Principles of Expenditure," the paragraph in which it is there found reading as follows: "The outlook for federal promotion is less clear in the railroad than in other transport fields. Although there appears to be no need for extension of facilities, considerable reconstruction of roadbed and purchase of new equipment will be necessary to modernize rail service, and where such investments may be more compulsory from the viewpoint of national defense or social objectives than from the viewpoint of carrier profitability, federal action may be deemed advisable. This may take the form of further loans, or grants, or even public ownership of certain facilities."

Among the report's general recommendations is one to the effect that there be "continued and invigorated efforts to secure the preparation of six-year programs or capital budgets by federal agencies, state governments, local governments, and other agencies, public and private, anticipating a large volume of construction activity." Also, the Board recommends the establishment of a revolving fund to be administered by the President "for the immediate inauguration of surveys, investigations, and preparation of engineering plans and specifications for selected projects through aids to federal and non-federal agencies and reimbursed to the revolving fund as part of the cost of construction of the project."

As a starter the report takes projects recommended for construction by federal agencies during the fiscal year ending June 30, 1942. The total cost of such projects is put at $6,155,523,000 of which it is estimated that $2,921,228,000 will have been spent prior to June 30, 1941. The remainder of the estimated cost is then distributed to future years up to fiscal 1947. It is emphasized, however, that the estimates of expenditures for fiscal 1943 and thereafter "do not all represent contractual commitments." Generally, the types of projects involved are listed as water use and control; public land development; transportation; defense; government plant; housing.

Aside from the above-quoted paragraph the report's two-page sub-section on transportation discusses federal promotional and regulatory activities. The future, it says, "appears to compel an even greater role" of federal sponsorship in the transport field. Among other things there is mention of recently-recommended plans for "a half-billion-dollar airport program"; also, "needed highway development, as outlined in the master plan of the Public Roads Administration, suggests a high volume of federal activity in the future." With regard to the promotion of water transport, "a far-reaching system of inland and coastal facilities is virtually completed"; but their "economical use will require expenditures to remove existing bottlenecks, to fill gaps in the network, and to bring all channels to proper depth."

The report's discussion of transportation concludes with a listing of eight principles, suggested as guides in connection with carrying out the national transportation policy set forth in the Transportation Act of 1940.

Bills in Congress

Representative Randolph, Democrat of West Virginia, has introduced H. R. 3973, a super-highway bill which calls for the construction of a "transcontinental" system consisting of six such roads.

Representative Crosser, Democrat of Ohio, has introduced H. R. 3984 to extend the crediting of military service under the Railroad Retirement Acts.

Representative Harness, Republican of Indiana, has introduced H. R. 4054, a companion measure to Senator Gurney's S. 974, to amend the Transportation Act of 1940 to provide that there shall be "verification" before payment of federal government transportation bills, which that act authorized to be paid prior to audit by the General Accounting Office.

TNEC Research Is "Incredible"

Pelley reveals economic "expert" relies for his information on paper "Labor"

"Candor compels me to say that I have never seen a document issued under public authority or quasi-public authority which contains so many reckless and unsupported statements." Thus does President J. J. Pelley of the Association of American Railroads characterize Monograph No. 26, "Economic Power and Political Pressures," authored by Donald C. Blaisdell and Jane Greverus, economic experts on the Temporary National Economic Committee's (Monopoly Committee) and released by the committee last week, details of which were given in last week's issue.

Mr. Pelley's statement condemning the monograph which in turn had criticized the railroads' alleged lobbying activities, was sent on March 13 to Senator Joseph C. O'Mahoney, Democrat of Wyoming and chairman of the committee, and to all the other members of the committee. He prefaces his remarks by stating that he understands from the monograph's foreword that the committee assumes no responsibility for the views expressed therein, but he does feel, however, that "a statement of this kind, issued under the auspices of the committee, implies a certain degree of endorsement, particularly when the author is commended by the Economic Advisor of the Committee."

Early in the chapter on "Utilities and Railroads" Mr. Blaisdell makes the statement that "Estimates of the amount of money spent by the A. A. R. and its numerous subsidiaries on propaganda and lobbying activities are so high as to be almost incredible, running to far over $100,000,000 for the period since 1918." Mr. Pelley tells the Senator that this statement is "so outrageously unfair and so palpably false that I cannot refrain from calling it to your attention."

He goes on to point out that as authority for this "extraordinary" statement, the author quotes the April 12, 1938, issue of "Labor", a weekly publication owned and issued by certain railroad labor organizations. "This newspaper," continues Mr. Pelley, "is frankly partisan. It is incredible, if I may use Mr. Blaisdell's word, that anyone charged with responsibility should make a statement of this kind, with no authority therefor except an article in a newspaper which is the partisan organ of

(*Continued on page 540*)

I. C. C. Frowns on Forwarders Again

Eastman has a kind word for the middlemen though, as I. C. C. advises on regulation

Adhering to the view expressed in its 1938 report in the Freight Forwarding Investigation, a majority of the Interstate Commerce Commission still believe that "whatever useful purposes forwarders perform could be performed by the carriers themselves through an expansion of their operations." This majority view was reiterated in a March 12 letter which Chairman Lea of the House committee on interstate and foreign commerce inserted in the record of the committee's hearings on H. R. 3684, the forwarder regulation bill introduced recently by Mr. Lea.

On the Senate side the interstate commerce committee's favorable report on S. 210, the forwarder-regulation bill introduced by Senator Reed, Republican of Kansas, on behalf of himself and Chairman Wheeler, reveals that the perfecting amendments ordered by the committee were worked out in the light of a similar letter from the Interstate Commerce Commission. Since the Senate bill was quite close to the type of measure favored by the I. C. C. majority, the amended version retains the same basic provisions as were outlined in the *Railway Age* of January 11, page 147—except that the specialized minimum-rate rule is eliminated, thus leaving the I. C. C. where it wants to be with the same general powers over forwarder minimum rates as it now has over those of the carriers. Remaining are such provisions as those forbidding forwarders from entering joint-rate arrangements with any carrier subject to the act; and restricting them to the use of services of common carriers and requiring them to pay the published tariff rates of such carriers. Also, the proviso to the effect that "nothing in this part shall be construed or applied as to give any freight forwarder the status of a common carrier under this part."

The letter written to Mr. Lea by I. C. C. Chairman Eastman outlined the commission's views on the bill; and it was accompanied by a separate expression from Mr. Eastman who did not agree with the majority view that the carriers could perform the forwarder operations. He is "fully persuaded that the forwarders perform a useful public service of much benefit to the shipping public." Commissioner Miller joined in Mr. Eastman's statement, while Commissioner Mahaffie agreed with a portion of it.

Meanwhile, however, the commission majority do think that "if the forwarding agencies are to be allowed to exist, they should be suitably regulated." Such "suitable" regulation would appear to be somewhat different than that proposed in the Lea bill as now written. Among other things the commission majority would deny forwarders the right to make joint rates with the carriers whose services they utilize; strike out the bill's minimum rate rule and its provisions with reference to certificates of convenience and necessity. Moreover, the letter further reveals that five members of the commission oppose making forwarder legislation a Part IV of the Interstate Commerce Act; they are of the view that "if legislation of this character is to be enacted, it should be either within the framework of one of the existing parts of the act, preferably Part I, or should be cast in a separate act." Also, five members of the commission "strongly recommend" that a long-and-short-haul clause be made applicable to forwarders.

As noted briefly in the *Railway Age* of March 15, page 498, the commission on March 13 announced a further postponement, from March 16 until July 1, of the effective date of its outstanding orders which require the discontinuance of joint-rate arrangements between forwarders and motor carriers. The commission's action in that connection came after it had been advised by the National Defense Advisory Commission that cancellation of the joint-rate arrangements "would be detrimental to the national defense program." The notice of the postponement said: "In view of this advice, and also of the progress which is now being made by Congress with respect to legislation for the regulation of freight forwarders and of communications which it has received from the House committee on interstate and foreign commerce and the chairman of the Senate committee on interstate commerce, the commission has felt justified in further postponing the dates of the outstanding orders."

Before getting into its discussion of specific provisions of the bill, the commission's letter to Chairman Lea reviewed past I. C. C. expressions and actions with respect to freight forwarders. To the commission, it now "appears clearly, among other things, (1) that the forwarders are regarded by the carriers subject to Parts I, II and III of the act as agencies which are important and often troublesome factors in transportation competition, (2) that while the forwarders usually publish schedules of their rates and charges, they

(*Continued on page 542*)

President Names Transport Study Board

President Roosevelt on March 20 sent to the Senate for confirmation the names of Wayne Coy of Indiana, Charles West of Ohio and Nelson Lee Smith of New Hampshire as members of the Transportation Study Board called for in the Transportation Act of 1940. Mr. Coy is now serving as Assistant Federal Security Administrator, while Mr. West is a former Democratic member of Congress from Ohio and former Under-Secretary of the Interior and most recently served as liaison man between the President and Congress. Mr. Smith is at present chairman of the New Hampshire Public Service Commission and is a former professor of Economics at Dartmouth College.

Index Numbers on Perishable Rates

On 1913-14 base as 100, citrus now pays 117 as against 1920 high of 157

A study of index numbers of railroad freight rates on perishable agricultural shipments, United States, 1913-38, written by Clifford C. Matlock, assistant transportation economist, Bureau of Agricultural Economics, U. S. Department of Agriculture, has been issued by that agency.

"The study," in the author's words, "is essentially limited in its scope to the investigation of average relative changes in railroad freight rates applying on domestic fresh shipments of the principal fruits and vegetables produced in the United States. The end product consists of index numbers of the freight rates in question depicting, with respect to each of the several groups of commodities included in the perishable category, the comparative changes in freight-rate levels during the period 1913-38."

With the period July, 1913-June, 1914 taken at a base of 100, Table 1 in the report gives the following index number for 1938 for the commodities named as follows: Citrus fruits, 117; apples, 123; deciduous fruits other than apples, 130; all fruits, 123; potatoes, 147; truck crops other than potatoes, 151; and all fruits and vegetables, 134. The highest index numbers shown in the table follow: Citrus fruits in 1920, 157; apples in 1920, 169; deciduous fruits other than apples in 1921, 166; all fruits in 1921, 159; potatoes in 1920, 173; truck crops other than potatoes in 1920, 164; and all fruits and vegetables in 1920, 162.

"In 1900," points out the report, "when the commercial production of fruits and vegetables was in its infancy, 5.2 million freight tons of fresh, dried, and canned fruits and vegetables were shipped by rail from origins in the United States. That movement was not inconsiderable, but it appears small in retrospect. In 1919, when the fruit and vegetable traffic reached a new peak, freight tons of these commodities originating on Class I railroads alone amounted to 19.7 million tons, or nearly four times the corresponding tonnage in 1900.

"The rapid rate of increase which characterized the fresh fruit and vegetable traffic, exclusive of tropical fruits, during the 1900-20 interval has not been sustained throughout the period since the end of the World War. The maximum of perishable tonnage originating during the period 1921-39 was reached in 1929, when 14.6 million tons of revenue freight of this description were originated on Class I railways in the United States. Freight revenue derived from the fruit and vegetable traffic has not fluctuated in precise correspondence with freight tonnage originated, since several characteristics of the traffic besides aggregate originations act as determinants of freight revenue. Changes in rates, which this study reveals, and changes in the character of the traffic (for example,

in relative commodity composition, and in length and direction of haul) naturally affect the amount of aggregate freight revenue derived from the traffic."

"The steady increase in production of fruits and vegetables, taken as a whole, which has characterized the last 40 years," continues the study, "has not been matched by a corresponding growth in the related railroad freight traffic. During no year in the decade 1930-39 did the aggregate fruit and vegetable tonnage originated, including dried, evaporated, and canned products, exceed 20 million tons—a figure roughly equal to the 19.7 million tons of 1919. The answer to the question raised by this circumstance lies in the development of highway and water transportation in arenas of transport service formerly dominated by the railroads to the virtual exclusion of motor trucks and ships."

The study also points out that highway and water carriers now transport substantial quantities of fresh fruits and vegetable, as well as other kinds of freight. Before 1917, it continues, trucking operations were of no great importance, and leaders in the transportation industry at that time tended to underestimate the future of motor trucks and evinced little concern over their competitive potentialities.

"It is evident," concludes Mr. Matlock, "that highway transportation is an increasingly important factor to be reckoned with in any study of perishable traffic as a whole. Motor truck freight rates lie beyond the horizon of the present study, but not because of any assumption that they are unimportant."

"Jim Crow" Case Goes to Supreme Court

The question of whether the so-called "Jim Crow" laws in the southern states are applicable to passengers riding on interstate trains was taken under consideration by the United States Supreme Court on March 13 after it has been orally argued by all the parties concerned. The case is that of the United States and the Interstate Commerce Commission versus Mitchell and comes to the high court after decisions on it had been rendered in both the Interstate Commerce Commission and the United States District Court in Chicago.

Arguing in his own behalf, Negro Congressman Arthur W. Mitchell, Democrat of Illinois, told the court that he had been "forcibly ejected" from a Pullman car in Arkansas while traveling from Chicago to Hot Springs, Ark., in 1937, and had been compelled to complete his journey "in a Jim Crow car with second class accommodations."

From the argument before the court it appeared that Congressman Mitchell had tried to purchase a Pullman ticket at Chicago for a drawing room on the train to Hot Springs, but that all available had been taken. He then obtained one to Memphis on the Illinois Central and then got on the Chicago, Rock Island & Pacific train at Memphis and asked the conductor to sell him a drawing room. The conductor informed him that none were available and that he could not take an ordinary Pullman seat because of the Arkansas race segregation statute. After some protest, Congressman Mitchell was forced to ride in what he described as a "filthy" second class coach. He then filed a complaint with the commission charging unjust discrimination and asking that the commission require the railroads to furnish equal first class accommodations for negroes. This, the commission refused to do, finding that there was not sufficient business to justify the issuance of such an order. Mr. Mitchell appealed to the District Court, which, in turn, upheld the commission, with the result that the case now comes to the Supreme Court for a final determination.

Mr. Mitchell began the argument by sarcastically saying that "Even when a member of our race reaches the highest position in the government yet attained, he still is not entitled to more than second class accommodations in a filthy coach." It was Mr. Mitchell's contention that when a colored man buys a first class ticket, it entitles him to first class accommodations. No state, he felt, has the right to interfere with interstate passengers.

Richard E. Westbrooks, Chicago colored attorney, also argued the case for Mr. Mitchell, taking the position that "the volume of traffic has no bearing on the constitutional rights of citizens." He argued that the Arkansas segregation statutes does not apply in the case of interstate passengers, saying that when Congress passed the Interstate Commerce Act, it foreclosed the states' rights to legislate on this subject.

J. Stanley Payne, assistant chief counsel of the commission, and W. T. Hughes, general attorney for the Rock Island, upheld the commission contention that the volume of traffic was too small to justify separate Pullman cars for Negroes. They went so far as to say that the demand of Negroes in Arkansas for Pullman accommodations was "virtually nonexistent."

During questioning of Mr. Payne from the bench, Justices Frankfurter, Black and Stone pointed out that there were extra seats in the Pullman which would have been sold to white people but were denied to Mitchell. When Mr. Payne explained to the court that the carriers would be subjected to heavy expense if they were required to provide equal dining car accommodations for Negroes, Chief Justice Hughes made the following comment:

"Of course, they could meet that difficulty by admitting colored persons to the dining car."

"The question would then be," concluded Mr. Payne, "whether the railroads would have any other customers in the dining cars."

The Department of Justice filed a memorandum with the court which reached the conclusion that "the commission erroneously supposed that the Arkansas Separate Coach Law applied to an interstate passenger, and erroneously determined that the small number of colored passengers asking for first class accommodations justified an occasional discrimination against them because of their race. If either of these conclusions is correct, the commission should be directed to reinstate the appellant's complaint and to proceed in the light of the opinion of this court."

B. & M. Hangs Up Operating Records in 1940

Besides taking in the highest freight revenues for any year since 1931, the Boston & Maine established four new all-time records in fundamental operating statistics during 1940, according to the annual report made available this week.

(1) Gross-ton-miles-per-train-hour reached 27,996, a figure 3 per cent higher than 1939's record and a gain of 27.3 per cent over 1930.

(2) Net-ton-miles-per-car-day reached 560, a gain of 48.1 per cent over 1930.

(3) Coal required to produce 1,000 gross-ton-miles in freight service reached a new low of 98 lb., an improvement of 10 per cent over 1930. If 1930's performance had been carried over into 1940, operating expenses in the latter year would have been higher by $186,250.

(4) Average-miles-per-serviceable-locomotive-per-day in freight service reached 96.1 and in passenger service, 124.7, both record figures.

Traffic Clubs to Meet at Jacksonville

The Associated Traffic Clubs of America will hold its spring meeting at Jacksonville, Fla., on May 5-7.

Tennessee-Tombigbee Hearing

The House committee on rivers and harbors will hold a hearing March 25 on the proposal to construct a waterway connecting the Tombigbee and Tennessee rivers.

Transport Round Table at U. S. Chamber Meeting

"Transportation and Defense" is the subject to be discussed at one of several round-table conferences included on the program for the 29th annual meeting of the Chamber of Commerce of the United States, to be held in Washington, D. C., from April 28 to May 1, inclusive. The round-table conferences will be held on the afternoon of April 30.

Rail and Barge Joint Rates

The Interstate Commerce Commission has served upon parties to the No. 26712 proceeding involving rail and barge joint rates a restatement of rail and barge cost data prepared by the Bureau of Statistics. The service is in accordance with an agreement in that connection; and the notice that if no hearing is requested on the restatement and summary, they will be incorporated in the record.

R. E. A. Gets Mississippi Truck Route

Subject to the usual conditions designed to insure that the highway service shall be supplemental to railway express service, the Interstate Commerce Commission, Division 5, has granted a certificate to the Railway Express Agency for common-carrier trucking operations on a 64-mile route between Jackson, Miss., and Pattison.

Among the conditions imposed was one

like that recently eliminated from certificates authorizing coordinated highway operations of railroads; it stipulates that shipments transported by truck "shall be limited to those moving on a through bill of lading, or express receipt, covering, in addition to a motor carrier movement by applicant, an immediately prior or immediately subsequent movement by rail."

N. E. Railroad Club Elects

D. P. Carey, assistant general mechanical superintendent, New York, New Haven & Hartford, has been elected president of the New England Railroad Club. W. G. Knight, mechanical superintendent, Bangor & Aroostook, Derby, Me., has been elected vice-president. Treasurer C. H. Sherburne, 53 Oliver street, Boston, Mass., has been re-elected, as has also Secretary W. E. Cade, Jr., 683 Atlantic avenue, Boston.

New Haven May Join T. W. A. in Air Service

That the New York, New Haven & Hartford has joined with Transcontinental & Western Air, Inc., in studying the possibilities of establishing a system of air transportation in southern New England was revealed in a statement made before the Civil Aeronautics Board in Washington, D. C., on March 19, by Gerald Brophy, counsel for T. W. A. Only American Airlines now operates air service between New York and Boston, Mass.

Rail Transport of Military and C.C.C. Personnel

A total of 232,738 men were transported by rail during February for all branches of the military service and the Civilian Conservation Corps, according to the Military Transportation Section of the Association of American Railroads. In addition to those handled on regular trains (which included 81,562 selectees and 12,160 of the regular army, navy and marine personnel) the February movement involved the scheduling of 461 special trains carrying 139,016 men.

Harrison on National Defense Mediation Board

George M. Harrison, president of the Brotherhood of Railway Clerks, has been named by President Roosevelt as one of the four employee representatives on the 11-man mediation board established on March 19 to deal with disputes in national-defense industries. Disputes coming within the purview of the Railway Labor Act are excluded.

In addition to the four employee representatives, the new board has a like number representing employers and three representing "the public."

New Haven Runs "Carmen" Special for School Children

The New York, New Haven & Hartford operated two special trains on March 21 to carry some 2,000 school students from its suburban area to New York to attend a special matinee performance of "Carmen" at the Metropolitan Opera House. The entire group marched en masse to the opera house from Grand Central terminal with a special escort of New York police. After the performance they marched back to the terminal and boarded return-trains leaving shortly after the height of the commuters' rush hour.

Clement Sees Tax Erosion of Long Island

"Tax erosion," President M. W. Clement writes in his annual report, "is dissipating Long Island Railroad revenues that ought to be available for improving the property. Last year, notwithstanding the deficit of $1,200,000, the Long Island had to pay 9.6 per cent more in taxes than in 1939 due largely to increased real estate assessments and higher tax rates. All taxes of the Long Island Railroad amounted to $4,000,000 and required 16 cents out of every dollar the railroad took in for services, the equivalent of 7.4 per cent on its stock.

"Taxes on the Long Island Railroad are twice as much as the interest on its debt. One of the anomalies of the situation, too, is that the Long Island Railroad has spent more than $38,000,000 to eliminate grade crossings. These expenditures are primarily for the benefit of highway users, but actually they result in higher taxes on the Railroad.

"In addition to its heavy tax load, the Long Island Railroad must compete with subsidized subways and subsidized bus transportation. The people of the City of New York make up in taxes the deficits of the subways, but the Long Island Railroad itself pays five cents in taxes for each passenger it carries. The situation is, of course, not fair to the Long Island Railroad."

Locomotives Placed on Priorities Critical List

Diesel-electric, gasoline, and electric locomotives have been included in the government's priorities critical list, according to an announcement made on March 19 by E. R. Stettinius, Jr., director of priorities, of the Office of Production Management. The new list, according to Mr. Stettinius, which is now made public for the first time, sets forth all the items on which the Army and Navy field services can automatically assign priority ratings.

In more detail, this means that hereafter either the Army or Navy, if they desire to purchase a Diesel-electric gasoline, or electric locomotive, may assign the order a priority number, thus requiring the manufacturer to complete it ahead of non-priority orders. If the manufacturer already has orders with assigned priorities, the degree of priority assigned to the new order of the War or Navy Departments will determine which order will be completed first.

The announcement states that the priorities critical list will be subject to revision once a month. Items on the list are deemed to include all fabricated parts necessary for the completion, maintenance or operation thereof, which are designed to meet military specifications, and as designed are not commercially useful for ordinary civilian purposes, it is pointed out.

Freight Car Loading

Loading of revenue freight for the week ended March 15 totaled 758,693 cars, the Association of American Railroads announced on March 20. This was an increase of 16,771 cars, or 2.3 per cent, over the preceding week, an increase of 139,305 cars, or 22.5 per cent, over the same week in 1940, and an increase of 167,527 cars, or 28.3 per cent, above the comparable 1939 week.

As reported in last week's issue, the loadings for the previous week ended March 8, totaled 741,922 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

For Week Ended Saturday, March 8			
Districts	1941	1940	1939
Eastern	168,753	137,790	131,786
Allegheny	167,998	127,911	116,527
Pocahontas	52,346	43,708	39,526
Southern	113,893	99,269	94,032
Northwestern	83,196	72,803	69,594
Central Western	103,940	93,210	92,055
Southwestern	51,796	45,905	44,906
Total Western Districts	238,932	211,918	206,555
Total All Roads	741,922	620,596	588,426
Commodities			
Grain and grain products	31,113	30,548	31,211
Live stock	9,914	10,972	10,175
Coal	158,936	123,286	114,998
Coke	14,119	8,962	6,965
Forest products	38,375	31,564	25,951
Ore	12,602	10,402	7,527
Merchandise l.c.l.	158,910	149,289	152,408
Miscellaneous	317,953	255,573	239,191
March 8	741,922	620,596	588,426
March 1	756,670	634,636	594,424
February 22	678,493	595,383	556,742
February 15	721,176	608,237	576,645
February 8	710,196	627,429	576,352
Cumulative Total, 10 Weeks	7,062,875	6,301,846	5,754,446

In Canada.—Carloadings for the week ended March 8 totaled 58,795, which was an increase of 2,708 over the previous week's loadings and compares with 47,438 loadings in the corresponding week last year, according to the summary of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
March 8, 1941	58,795	30,748
March 1, 1941	56,087	30,043
February 22, 1941	54,168	28,801
March 9, 1940	47,438	25,293
Cumulative Totals for Canada:		
March 8, 1941	528,591	281,928
March 9, 1940	472,928	240,679
March 11, 1939	400,774	211,542

Railroads Denied Blanket Fourth Section Relief

The Interstate Commerce Commission, Division 2, has denied the joint application of the Association of American Railroads and the American Short Line Railroad Association for blanket relief from the long-and-short-haul clause in order to simplify the publication of tariffs to cover situations where the departures are caused by circuitous rail and rail-water routes rather than by competing water lines.

The filing of the petition, noted in the *Railway Age* of January 4, page 122, came about as a result of a recommendation of the A. A. R. committee on freight tariffs.

The appeal has been described as one for a more practical and sensible administration of the fourth section.

Club Meetings

The Metropolitan Traffic Association of New York will hold its annual debate on March 27 at the Pennsylvania hotel, New York. Three-man teams will debate the subject "Resolved that the St. Lawrence Waterway Should Be Approved." The usual forum on traffic subjects will be conducted preceding the debate.

The Railway Club of Pittsburgh will hold its next meeting at the Fort Pitt hotel, Pittsburgh, Pa., on March 27 at 8 p. m. "The Artificial Creation of Speech" will be presented by Dr. J. O. Perrine, assistant vice-president, American Telephone & Telegraph Co., Pittsburgh.

Freight Collides with Arms Workers' Train on Erie

One person was killed and 150 persons were injured, of which 45 required hospitalization, when a freight train ran into the side of a passenger train on the Erie at Ravenna, Ohio, at 7:06 a. m. eastern time on March 18. The 10-car westbound passenger train was carrying about 600 defense workers from Youngstown to the War Department's shell-loading plant at Ravenna, and when the eastbound freight train ran into it, it was moving backward from the westbound track on a cross-over leading over the eastbound track and into a siding to the south of the main line tracks. The locomotive of the freight train struck the passenger train at about its middle, derailing 5 passenger cars, the freight locomotive and 10 freight cars. The accident was immediately investigated by the railroad, the Interstate Commerce Commission and the Army.

February Operating Revenues 13.4 Per Cent Above 1940

Preliminary reports from 88 Class I railroads, representing 82.5 per cent of total operating revenues, made public recently by the Association of American Railroads, show that those roads, in February, had estimated operating revenues amounting to $293,323,035 compared with $258,759,249 in the same month of 1940, and $350,562,774 in the same month of 1930. The February gross was 13.4 per cent above that of February, 1940, but 16.3 per cent below February, 1930.

Freight revenues of the 88 roads in February amounted to $243,505,284 compared with $212,779,632 in February, 1940, and $270,916,808 in February, 1930—14.4 per cent above the former, but 10.1 per cent below the same month in 1930. Passenger revenues totaled $29,264,648 compared with $25,794,799 in February, 1940, and $50,079,166 in February, 1930—13.5 per cent above the former, but 41.6 per cent below the same month in 1930.

P. R. R. Express Derailed By Saboteurs; Five Killed

"Definite evidence" points to skilled sabotage as the cause of the derailment of the Pennsylvania Train No. 316—"The Buckeye"—one mile east of Baden, Pa., at 9:03 p. m., March 16, causing the death of the engineer, two employees riding as passengers and two passengers. A total of 75 passengers were treated for shock, exposure and injury, of whom 63 were still in hospitals on March 19. Some 30 passengers were released after examination by physicians.

The five-car Cleveland (O.) to Pittsburgh (Pa.) express left the rails one mile east of Baden near the east end of Conway yard, 19.6 mi. west of Pittsburgh, on the main line of the Eastern Ohio division. The four main-line tracks are tangent at the point of accident and run along the north shore of the Ohio river, the distance between the top of the rail of the outside track and the water at mean level being about 30 ft.

The Buckeye was derailed on track No. 1 (nearest the river) while traveling at a speed estimated at between 60 and 65 m. p. h. The locomotive turned over on its side, pinning under it Engineman A. L. Weigle of Alliance, Ohio, who is dead. The baggage car next to the locomotive plunged into the Ohio river where it remained upright. The second car in the train, a coach, also went into the river, turning over on its side. From this car the bodies of an employee and two passengers were recovered. The third car, a coach, remained upright on the river bank with water reaching to the floor at one end. The last two cars, a cafe-coach and a sleeper, although derailed, remained upright and clear of the water.

"Definite evidence of sabotage" was discovered during the all-night preliminary investigation which the railroad conducted following the wrecking of the train, according to a statement issued early on March 17 by E. W. Smith, vice-president (operating) Central region, at Pittsburgh.

"That the train was wrecked deliberately was established upon inspection of the track. All spikes on both sides had been pulled from the outside rail next to the river. One end of the rail, the end facing the on-coming locomotive, was moved in 22 inches. The bolts had been removed from the splice bars which spliced this section of the rail to the adjoining rails.

"That the derailment was the result of deliberate action was further indicated by the fact that the end of the section of rail involved had been moved only 22 inches from its normal position, or the length of the bond wire which connects the rail sections and carries the electric track current operating the signals. The bond wire itself was not disturbed and the railroad's signal system was unaffected. The fact that the bond wire was undisturbed definitely indicates that it was intended that the train should get a clear signal and run into the removed rail. If the bond wire had been broken the train would have been stopped by signal before running over the damaged rail section."

An intensive search for the perpetrators of the crime is under way. The railroad has posted an offer of $5,000 for information leading to the arrest and conviction of the "person or persons" responsible for the tragedy. In addition to the usual investigations made by the Interstate Commerce Commission and state Public Utility Commission, the Federal Bureau of Investigation has undertaken a special investigation on its own account and has promised "completeness."

Possible motive of the saboteurs remains a mystery at time of writing. It is conjectured that their target may have been the important Manhattan Limited, Chicago-New York express, which passed over the same track some 18 min. before the ill-fated Buckeye. If so, their tampering job was not completed in time. But no possible reason for wrecking even the Manhattan has as yet been discovered.

Possible further casualties to injured and dazed passengers wandering about on the

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Saboteurs Caused This Derailment Near Baden, Pa.

This view looking east along the Ohio river was taken on the morning following derailment of the Pennsylvania's Buckeye. While certain of the cars have been dragged up out of the water, they lie in relatively the same position as they fell originally. Cars are numbered according to position behind the locomotive. No. 1 is a baggage car. No. 2, a coach, yielded the bodies of three persons. No. 3, also a coach, had one end in the river.

right-of-way following the derailment were prevented by Fireman C. H. Millburn, of Alliance, who, though injured by derailment of the locomotive, climbed down from the overturned cab and proceeded east along the main line in time to flag down a fast westbound freight train. He is now in Valley hospital, Sewickley, Pa., for treatment.

Derailment of the Buckeye did not affect the condition of the remaining three tracks and traffic was continued over them at slow speed. No. 1 track was rebuilt and inspected on the afternoon of March 17, following re-railment of the sleeper. Wrecking crews completed their work late on March 18.

Southeast Shippers See 8.4 P.C. Increase in Loadings

The Southeast Shippers Advisory Board, through its commodity committees, forecast an 8.4 per cent increase in carloadings for the second quarter of 1941 as compared with the corresponding period of 1940, at its fifty-sixth regular meeting held in Biloxi, Miss., on March 20. The principal speaker at the meeting was Holcombe Parkes, associate director of public relations, A. A. R., who declared that, "the most dramatic of all the demonstrations of democracy at work is to be found in the history and achievements of the American railroads." The railroads also "represent our greatest example of private initiative and enterprise and capital, functioning democratically to provide an essential public service," according to the speaker. "More than that, they function superlatively well, giving America and Americans the world's best and cheapest rail transportation." These things, Mr. Parkes contended, are "the very essence of real democracy at work," and furnish "the devastating answer to all the Doubting Thomases who wonder if democracy is becoming decadent."

George C. Randall, manager of port traffic of the Car Service division, A. A. R., discussing the car situation, said that "it is not anticipated that there will be any difficulties in meeting demands unless it be in the peak months." He called attention to the fact that by September 1 there will be at least 167,000 more railroad freight cars in service than by the same time two years ago, and that the railroads have the lowest number of bad order cars now than in any period in their history.

Concerning port conditions, Mr. Randall told the board: "With the exception of occasional temporary increases in the 'bank' of steel due to the irregular boat situation, there has been no congestion of any sort at any Atlantic or Gulf port. Between 1,900 and 2,500 cars are being unloaded daily with a total 'bank' of from 12,000 to 16,000 cars, or about five to six days' supply."

Seeks Service Statements from 300,000 Rail Employees

About 300,000 present and former railroad employees who have not yet furnished statements of the railroad service they rendered before 1937 have been advised by the Railroad Retirement Board to file them with the Board or at a railroad office as soon as possible if they wish to avoid delay in getting their annuities at the time they retire and want to help make sure that the necessary records of their pre-1937 service are not lost or destroyed in the future.

In a message directed to these employees, many of whom are not now working for a railroad but who nevertheless have credits toward annuities based in whole or in part on service in the railroad industry before 1937, the Board states: "Your service in the railroad industry before 1937 may be creditable toward your annuity under the Railroad Retirement Act. Under a nation-wide program [the prior service records project] recently authorized by Congress the amount creditable to you for that service can now be determined by the Board in advance of your retirement if you will state when, where, and for whom you worked, so that your railroad employers can furnish the Board with a record of your service and compensation."

Western Transportation Conference Held at Los Angeles

The second annual Western Transportation Conference was held at Los Angeles, Cal., on March 13, by the College of Commerce and Business Administration of the University of Southern California, with railroads, airlines, highway carriers and other organizations co-operating. At a luncheon meeting, papers on rail and truck transportation were presented by M. J. Gormley, executive assistant of the Association of American Railroads, and Leland James, president of Consolidated Freightways, Inc. Addresses by air and steamship companies and shippers and a panel discussion of topics submitted by the audience constituted the afternoon program. Paul Shoup, formerly vice-chairman and president of the Southern Pacific and now president of the Merchants and Manufacturers Association of Los Angeles, spoke on Transportation Labor Problems, and Henry A. Palmer, editor and manager of the Traffic World, on Transportation in 1941, at a dinner in the evening.

Equipment on Order

Class I railroads on March 1, had 39,353 new freight cars on order, according to the Association of American Railroads. New freight cars on order on March 1, 1940, totaled 28,162 while on February 1, this year, there were 41,600 on order. New freight cars for which orders had been placed on March 1, included 23,139 box, 13,462 coal, 1,372 refrigerator, 995 flat, 350 Stock and 35 miscellaneous.

Class I roads on March 1, also had 298 new locomotives on order, of which 132 were steam and 166 were electric and Diesel-electric. On March 1, 1940, there were 132 new locomotives on order including 70 steam and 62 electric and Diesel-electric. New locomotives on order on February 1, 1941, totaled 238, of which 120 were steam and 118 electric and Diesel-electric.

New freight cars put in service in the first two months of 1941, totaled 11,587, compared with 11,595 in the same period last year. New locomotives put in service totaled 81, of which 21 were steam and 60 electric and Diesel-electric. In the same period last year, the railroads put 45 new locomotives in service, which included 11 steam and 34 electric and Diesel-electric.

New freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Interest in Perfect Shipping Campaign Already Keen

Interest in the perfect shipping campaign to be conducted by shippers and railways during April, has become keen with the completion of plans to make this year's efforts more effective than any of the previous campaigns since 1937. Although the starting shot will not be fired until March 31 when each of the 13 regional advisory boards will stage one or two opening meetings, preliminary gatherings of interested groups have already been held.

Two of these occurred at Chicago this week. On March 17, the Mid-West Shippers Advisory Board inaugurated its campaign with a meeting of trade association executives, editors of trade journals and other key men in industry at which the importance of perfect shipping was outlined. On the following day, the Traffic Club of Chicago held its annual perfect shipping luncheon, at which the voca-film production to be used this year was shown and W. J. Williamson, general traffic manager of Sears, Roebuck & Company, and general chairman of the national management committee, and C. H. Dietrich, executive vice-chairman of the freight claim division of the Association of American Railroads, were the speakers.

Typical of the efforts of the railroads to make the campaign a success is the Illinois Central, which this year has set its goal at a reduction of $150,000 in freight claim payments as compared with 1940. In addition, this railroad has broadened the meaning of "claim" to include any character of claim that might be made against the railroad.

Mediation Meetings on Demand for Vacations with Pay

Railway labor and management representatives this week were meeting in Washington, D. C., with the National Mediation Board in response to the Board's proffer of mediation services in connection with disputes growing out of the demand of the 14 non-operating unions for vacations with pay and the Western railroads' counter-proposal for a 10 per cent reduction in wage rates. The Board's proffer of mediation came in the form of a resolution adopted by it on March 14, and the meetings got under way March 19.

Among other things, the resolution stipulates that by the proffer of mediation "it is not intended that the Mediation Board will also assume mediation of the question of handling the disputes . . . either on a regional or a national basis." Also, the resolution asked the labor organizations "to withhold the opening and counting of the strike ballots . . . pending the outcome of mediation proceedings."

When the strike vote on the vacations issue was announced on February 6, union spokesmen indicated that the principal reason for their action was the refusal of the railroads to agree to national handling of the demand. The vacations-with-pay fight

is being led by George M. Harrison, president of the Brotherhood of Railway Clerks. In the March 18 issue of "Labor," organ of the railroad brotherhoods, Mr. Harrison was quoted as having predicted that "undoubtedly the members of the organizations will vote overwhelmingly to strike if the railroads continue to refuse to meet on a national basis with the labor representatives . . . ." It had been expected that results of the balloting would be announced about March 28.

President Will Send St. Lawrence Report to Congress

President Roosevelt announced at his March 18 press conference that he planned within a few days to send to Congress a report on the proposed St. Lawrence project, which would embody a joint agreement—not a treaty—with the Canadian government. While the report is expected to be concerned basically with power development, which the President has said is necessary for national defense, Mr. Roosevelt would not say whether the agreement would contemplate also construction of navigation facilities.

In the latter connection, however, he did observe that if a power dam were to be built at a cost of, say, $200,000,000, a lock could be provided for an expenditure of an additional 10 per cent of that amount. Meanwhile the President indulged in a bit of by-play with reporters as to where funds allotted to him for repairs of foreign ships would be spent. The money, he said, could not be spent on the Great Lakes—because it would be impossible to get the ships in or out. He also observed that it was not possible to get Great Lakes freighters out for possible use on ocean routes. One of the reporters suggested that New England would be willing that the St. Lawrence seaway should never be built; and the President noted that other sections of the country felt the same way, adding that such sections should think of the interests of the whole country.

The running debate on the St. Lawrence which has been going on in the appendix to the Congressional Record was carried along in the March 13 issue by an extension of remarks from Representative Kilburn, Republican of New York; in the March 14 issue by extensions from Representative Beiter of New York and Wasielewski of Wisconsin, Democrats; and in the March 17 issue by Representative Van Zandt, Republican of Pennsylvania. The latter inserted an opposition article written by Editor Paul M. Smith and published in the March issue of the Locomotive Engineers Journal.

"Southerner" to Make New York-New Orleans Run in 28½ Hours

The timetable of the "Southerner", new luxury all-coach train to be operated by the Pennsylvania and the Southern between New York and New Orleans, La., recently made public, shows a schedule of 28 hr. 38 min. southbound and 28 hr., 50 min. northbound. At present there is no through train running between Washington, D. C., and New Orleans entirely on the rails of the Southern, as does the new train. The Southern's all-Pullman "Crescent," which operates via the Louisville & Nashville south of Montgomery, Ala., has a present running time between New York and New Orleans of 31 hr., 50 min., southbound and 34 hr. northbound. Trains Nos. 41 and 42 operating between New York and New Orleans via Bristol, Tenn., and the Norfolk & Western make the trip in 36 hr., 30 min., southbound and 36 hr., 55 min., northbound, respectively.

Southbound the "Southerner" will leave New York at 4:37 p. m. (e. s. t.) daily; Washington, D. C., 8:50 p. m.; Atlanta, Ga., 8:55 a. m. (c. s. t.) the following morning, and arrive in New Orleans 8:15 p. m. Northbound the train will leave New Orleans at 8 a. m.; Atlanta 7:30 p. m.; Washington 9:40 a. m. the next morning, and arrive in New York 1:50 p. m.

The service will be covered by three complete sets of equipment each with an observation-tavern car and diner, which will be hauled by electric locomotives north of Washington, D. C., and by Diesel-electric locomotives south thereof. The first run southbound from New York will be made on March 31 and northbound from New Orleans on April 1. A set of equipment will also start northbound from Atlanta on March 31.

As was announced in last week's *Railway Age*, the train was dedicated in New Orleans on March 17 and started on a public inspection trip northbound on the following day. More complete information on exhibition dates and time on and after March 22 follows:

March 22—Atlanta, Ga.	8:00 a. m. to 10:00 p. m.
March 23—Anniston, Ala.	8:00 a. m. to 12:00 p. m.
March 24—Greenville, S. C.	7:30 a. m. to 10:30 a. m.
March 24—Spartanburg, S. C.	11:40 a. m. to 2:30 p. m.
March 24—Gastonia, S. C.	4:00 p. m. to 6:00 p. m.
March 25—Charlotte, N. C.	7:30 a. m. to 9:00 p. m.
March 25—Salisbury, N. C.	7:00 a. m. to 9:00 a. m.
March 26—High Point, N. C.	10:10 a. m. to 1:10 p. m.
March 26—Greensboro, N. C.	3:00 p. m. to 10:00 p. m.
March 27—Danville, Va.	7:30 a. m. to 9:30 a. m.
March 27—Lynchburg, Va.	11:00 a. m. to 2:00 p. m.
March 27—Charlottesville, Va.	3:30 p. m. to 6:30 p. m.
March 28—Washington, D. C. (upper level)	9:00 a. m. to 8:00 p. m.
March 29—Phila., Pa. (Broad St.)	9:00 a. m. to 5:00 p. m.
March 31—New York	9:00 a. m. to 2:30 p. m.

Christening of the "Southerner" was held at noon, March 17, at the Southern's terminal station in New Orleans. Miss Delphine Clark, queen of the 1941 Carnival broke a bottle of champagne over the front of the Diesel-electric locomotive standing on a platform erected at the rear of the terminal.

Betts Warning on Permitting Use of Cars for Grain Storage

Present and prospective traffic trends make it an "unqualified certainty that the railroads can take no chances on having their box car supply endangered by loading with any freight that may not be unloaded promptly; nor can there be spared from transportation service any box cars serviceable for the temporary storage of grain." Such is the warning note sounded by L. M. Betts, manager of the Car Service Division's Closed Car Section, in a March 12 circular discussing the forthcoming annual wheat movement.

Among the aspects of the situation discussed by Mr. Betts is the prospect for an "exceptionally large, if not a bumper, crop," and the "serious question" as to the ability of the grain trade to absorb promptly the additional load of the new crop when the harvest begins. Also, the circular predicts that it will undoubtedly be necessary in connection with plans for moving the crop to request special measures to expedite the return of Western box cars in anticipation of the harvest movement beginning about June 15.

The position of the railroads, Mr. Betts also said, has been fully explained to the Department of Agriculture which agrees "with our stand." In that connection it was made clear to the Department that this policy "would include our refusal to permit cars to be loaded at country stations even if the grain had to go on the ground rather than to tie up equipment in any form of grain storage." However, the circular added, "prospects exist for a substantial increase in grain storage facilities, at least of a temporary nature." In the latter connection attention was called to a March 5 statement from the Secretary of Agriculture announcing agreement on proposals to adhere to the policy of utilizing commercial warehouse space for storage of government wheat in preference to steel bins; allowing tax certificates of necessity (which permit amortization of capital costs over a period of five years) covering all supplemental grain storage facilities that may be constructed this year; and "satisfactory understanding covering stabilization of rates."

Meanwhile Chairman W. C. Kendall of the Car Service Division has advised transportation officers that the Division has secured a "national defense" stamp for use on correspondence with shippers. The stamp prints this message: "The national defense program has increased the demand for freight cars. You may aid this program by increasing the load per car and releasing cars promptly." If orders are received for 100 or more, the stamps can be furnished to railroads at 50 cents each, delivered.

Senators to Investigate D. & R. G. W. Abandonment

The Senate has adopted Senate Resolution 82, introduced by Senator Johnson, Democrat of Colorado, which authorizes the committee on interstate commerce to spend not more than $3,000 to investigate and report to the Senate all the pertinent facts regarding the recently-authorized abandonment by the Denver & Rio Grande Western of its branch extending from Antonito, Colo., to Santa Fe, N. Mex. As pointed out in the *Railway Age* of March 8, page 437, Division 4 of the Interstate

Commerce Commission has postponed the effective date of its order in the case for an additional 40 days, thus making the effective date of the order April 13.

Senator Johnson said this week that he had been named chairman of a subcommittee to investigate the case and that there would be two other members, one Democrat and one Republican. At the time of this writing he had named Senator Shipstead, Republican of Minnesota, as one of the members, but had not decided upon the other member. Hearings will be held and completed in Colorado before the effective date of the order, said the Senator, but he felt that the report called for in the resolution could not be prepared before that time.

In the meantime, the report on the resolution by Senator Johnson from the committee on interstate commerce favoring its adoption was made public. After setting out the broad objectives of the proposed investigation, the report proceeds to say that since the time that the commission's order was entered in the case reports have come to the attention of members of the committee that were not called to the attention of members of Division 4 of the I. C. C. which had ordered the abandonment.

"While it is believed that the reports are authentic," says the report, "the purpose of the investigation is to establish the reliability of these reports and to obtain all pertinent facts on the proposed abandonment and to report thereon. Abandonment by the Denver & Rio Grande Western of this railroad line would sever railroad service between two important points. The movement of goods, commodities, and supplies would be hampered. Certainly during the present emergency all railroad service should be maintained. The national defense demands that all possible rail facilities be kept serviceable for the movement of military supplies."

Railroad Retirement Board Annual Report

The total amount of annuities, pension and survivor benefits under the Railroad Retirement Act showed a further increase during the fiscal year 1940 but at a slower rate than in previous years, according to the Railroad Retirement Board's annual report released March 20. Total benefits payable under the act for the year amounted to $113,733,000; the increase for the 1940 over the 1939 fiscal year was 10.1 per cent whereas payments in the fiscal year 1939 were 21.7 per cent above the total for the fiscal year 1938.

The total benefits paid under the retirement system from the beginning of operations in 1936 through June 30, 1940, amounted to $315,470,000. The unexpected balance of the retirement system as of June 30, 1940, is estimated at $86,901,000 including a reserve of $79,400,000 invested in 3 per cent Treasury notes.

The total number of railroad employees and their survivors to whom retirement benefits were payable from the beginning of operations to July 1, 1940, was 221,000. This number is made up of 133,000 employee annuitants, 48,500 former carrier pensioners transferred to the pension rolls of the Board, 6,350 individuals receiving survivor or death benefit annuities or both, and 32,850 recipients of lump-sum death payments.

The average monthly annuity paid to employee annuitants on the rolls of the Board at the end of the fiscal year 1940 was $67.48. The average age at retirement of employee annuitants who had received annuities as of June 30, 1940, was 67.2 and the average number of years of railroad service on which their annuities were based was 27.3. On the same date the average monthly pension being paid to former carrier pensioners transferred to the rolls of the Board was $58.66. The average attained age of these pensioners was 75.2 on December 31, 1939.

Unemployment insurance payments in the first year of operation of the Railroad Unemployment Insurance Act were less than anticipated and far below the contributions collected under the act, the Board reports. During the year approximately $14,800,000 in benefits was paid to some 160,700 railroad employees while the amount of taxes accruing for the year and collected by the end of September was approximately $65,470,000, 90 per cent of which was credited to the account for benefit payments.

This wide difference between collections and payments, the Board's report states, was due in part to the improvement in railroad employment conditions; but "the relatively low level of benefits provided for in the original act was also a factor of major importance." The act was amended by Congress at the close of the year providing for substantially higher benefits beginning November 1, 1940.

The Board's annual report contains a recommendation concerning benefit rights of railroad employees who are drafted or who volunteer for service in the armed forces. By recent enactment of Congress credit toward an annuity under the Retirement Act has been given for military service performed before January 1, 1937, but no provision has been made for those currently entering military service either as to retirement or unemployment insurance credits. As to retirement benefit credits, the Board recommends that military service be credited as if it were service with employers covered by the Railroad Retirement Act without, for annuity purposes, affecting the average monthly compensation. In connection with unemployment insurance, the Board believes that no changes should be made in the Railroad Unemployment Insurance Act to provide military service credits. Instead, it thinks that a nation-wide system of unemployment allowances should be provided to cover the first year following honorable discharge from the armed forces. "This system," the Board states, "would protect all draftees and volunteers regardless of their status before entering the army; would be all-inclusive and simple to administer, and for these reasons alone, would appear to be preferable "to special adjustments in the railroad unemployment insurance system and 51 States and territorial unemployment insurance systems.

The Board also reports that its employment service for unemployed railroaders is now operating throughout the field offices of the Board. These field offices, first established for the administration of the unemployment insurance system, are functioning also to assist railroad employees in obtaining annuities under the Railroad Retirement Act. Applications for annuities formerly handled only through the Board's Washington office may now be submitted to any field office of the Board.

The Board's report contains a valuation of the assets and liabilities under the Retirement Acts as of December 31, 1938. The valuation indicated that if the initial experience under the acts is characteristic of later periods, increased revenues will have to be provided for the retirement system. The Board recommended that there be no immediate increase in taxes under the Carriers Taxing Act, however, until longer experience was available. It suggested further that it might be desirable to secure some of the required revenues from general taxation rather than from specific payroll taxes.

The foregoing are the same recommendations which the Board made in submitting to Congress the first report of its Actuarial Advisory Committee. As noted in the *Railway Age* of September 7, 1940, page 340, that committee found that rates under the Carriers Taxing Act would have to be increased to approximately 11.11 per cent if they are to maintain a fund adequate to support the retirement system set up in the Railroad Retirement Act.

TNEC Research Is "Incredible"

(*Continued from page 533*)

particular groups. I have examined the issue of 'Labor' referred to and it is there stated that 'carrier lobbying organizations spent over $189,000,000 in the years since the war.' This statement in 'Labor' has been answered repeatedly and conclusively refuted."

"What foundation it has," continues Mr. Pelley, "rests upon certain exhibits, known as Exhibits Nos. 3440-3443, introduced into the record of the investigation conducted pursuant to the authority of S. Res. 71 by a subcommittee of the Senate Committee on Interstate Commerce, which had to do with the financing, reorganization and consolidation of railroads. Beginning on page 10,441 of the printed record of the hearings, part 23, will be found certain exhibits put into the record by the agents of the Senate subcommittee, containing certain information collected from railroad files. That statement indicates (page 10,442) that in the period from 1920 to 1936 the railroads spent, for all of their associated activities, $182,367,000. The pages following 10,442 give the details of these expenditures. That statement shows that they cover the expense for 17 years of all the work done by the railroads through the medium of committees and associations. It covers a vast amount of work which the experience of the railroads indicates can more efficiently and economically be done through joint action than individually."

As an example, Mr. Pelley says that

there is included the work done by the railroads in connection with the exchange of equipment and the repair and return thereof, including payment for the use of cars delivered to other railroads in exchange; the research work of the Association in the field of equipment and operating methods; the formulation of rules for the transportation of explosives and other dangerous articles; the work of demurrage and storage bureaus, which have to do with the making of demurrage rules and the collection of demurrage; investigation and work done for fire protection; and the work of the traffic bureaus, having to do with the investigation of rates and the publication of tariffs. This work of the traffic bureaus alone, according to the A. A. R. president, covers approximately $119,400,000, about 65.5 per cent of the total.

"I was given the privilege of making an explanation to the subcommittee with respect to these expenditures and I did so in a letter addressed to the subcommittee, bearing the date of April 5, 1938, which letter was made a part of the record in the S. Res. 71 investigation," declares Mr. Pelley. "This statement was available to Mr. Blaisdell, if he had cared to make an impartial investigation of the question. In that letter, I pointed out that all of the work of the Association of American Railroads, including its expenditures for advertising, represented, in the year 1937, no more than 7/1000 of one per cent of the total operating revenues of the Class I railroads of the country. I pointed out also that if you add together the total expense of the Association of Railway Executives, of the Law Department of the A. A. R. and the total expenditures for State Railroad Associations, you would have a figure which is no more than $8,000,000 for the whole period covered.

"It will be noted that the $8,000,000 figure covers the entire expense of the Association of Railway Executives. This Association dealt with a great many questions which had no concern with legislation. It covers also the entire expense of the law department of the present Association, the A. A. R. Our law department handles cases before the I. C. C. and before the courts and furnishes a medium for the consideration of a great many questions other than those pertaining to legislation. The State Railroad Associations, while they do concern themselves with legislative activities in the states, perform many other functions. It may be safely asserted that the amount expended in legislative work, national and state, consisting principally of bills for printing, clerical help and postage, would be a very small part of this $8,000,000."

Mr. Pelley, near the close of his letter, reminds the chairman that Mr. Blaisdell did not call on the A. A. R. for any explanation nor as any testimony given to the committee on that subject.

"If this monograph is typical of those issued by the agents and employees of the committee," concludes Mr. Pelley, "I say with great deference that these reports are not worthy of being received by the country as having any probative value in solving the important problems which the committee is considering. I may say that the entire report, so far as it refers to railroads, bears evidence of hasty preparation and inadequate examination of the facts and a degree of bias which is indeed 'incredible'."

Streamlined Trains Boost Florida Business 35 Per Cent

The three streamlined coach trains, which were placed in operation between Chicago and Florida in December by the nine railroads comprising the three routes, have increased Chicago-Florida traffic 35 per cent, compared with the period from December 17 to February 28 last year. Traffic and earnings of the streamlined trains have been maintained at such a high level that these trains will be operated until May 31, with the possibility that they will be made year-round trains.

The outstanding features of these trains are their high earnings, despite a 1½ cent per mile rate in the south, and their popular approval as reflected in their patronage and replies of passengers to questionnaires. These replies show that about 40 per cent of the passengers rode the trains instead of automobiles, airplanes and busses. It is estimated that the revenues of the three trains have averaged about $3.25 per mile in the territory where the 2-cent rate applies, and approximately $2.25 if the total revenue between Chicago and Miami from 1½ and 2 cent rates is divided by the total distance between Chicago and Miami.

The Dixie Flagler, during the period from December 17 to March 8, carried 10,124 passengers, of which 8,465 were through, in both directions, between points north of Evansville and Florida and 1,659 were local. Of the 8,465 passengers, 6,525 were through, in both directions, between Chicago and Florida. Of the total, 5,204 passengers were moved south and 4,920 were carried north on 28 trips. The Chicago & Eastern Illinois estimates that its portion of the passenger revenue of the Dixie Flagler for 28 trips each way, based on a 2 cent rate, amounted to $48,356, or $3.22 per train mile southbound and $2.58 northbound for the 287 miles between Chicago and Evansville, Ind.

The City of Miami, during the period from December 18 to March 10, carried 10,551 passengers, of which 9,745 were through, in both directions, between points north of Birmingham and Florida, and 806 were local. Of the 9,745 passengers, 8,171 were through, in both directions, between Chicago and Florida. Of the total, 5,966 persons were moved south on 29 trips and 4,585 were carried north on 28 trips. The Illinois Central estimates that its portion of the passenger revenue of the City of Miami for 28 trips each way, based on a 2 cent and a 1½ cent rate, amounted to $101,933 or $2.63 per train mile for the 691 miles between Chicago and Birmingham, Ala.

The South Wind, during the period from December 19 to March 12, carried 14,181 passengers, of which 10,693 were through, in both directions, between points north of Louisville and Florida, and 3,493 were local. Of the 10,693 passengers, 6,941 were through, in both directions, between Chicago and Florida. Of the total, 6,878 passengers were moved south and 7,308 were carried north on 28 trips. The Pennsylvania estimates that its portion of the passenger revenue of the South Wind for 28 trips each way, based on a 2 cent rate, amounted to $56,436 or $3.47 per train mile southbound and $2.97 northbound for the 313 miles between Chicago and Louisville, Ky.

On the first 21 trips of the trains, about 3,000 passengers replied to questionnaires that were distributed. Answers to the question, If you had not used this train, how would you have traveled?, were as follows:

	Dixie Flagler Per Cent	City of Miami Per Cent	South Wind Per Cent
Automobile	24	31	27
Airplane	12	6	10
Bus	7	3	2
Coach on other train	21	13	32
Pullman sleeper	34	27	29

Answers to the question, What influenced you to travel on this train?, showed that 43 per cent on the South Wind and 10 per cent on the Dixie Flagler were influenced by advertising. In addition, 43 per cent on the South Wind gave such reasons as low fares, schedules, new equipment, travel bureaus, similar trains on other roads and ticket agents. On the Dixie Flagler, 33 per cent said they used this train because of a combination of price, speed, comfort and cleanliness; 16 per cent because of a saving in time due to the speed of the train, 7 per cent out of curiosity and 24 per cent for 32 different reasons.

Supply of Box Cars for This Year's Crops Reported Ample

A special report that the estimated supply of serviceable box cars will be "ample" for this year's movement of agricultural commodities has been made by the Bureau of Agricultural Economics to the National Defense Advisory Commission. Transportation needs of grain were given special attention because grain makes heavy demands on railroad facilities during harvest. Moreover the same box car equipment required for grain is used for most other agricultural commodities except fruits, vegetables, and livestock.

Transport needs of farm products are expected to be the same this year as last. Estimated supplies of box cars will be ample for this traffic, it was indicated, despite increased competitive demand for such equipment by national defense traffic and general business, although transportation facilities "would become seriously congested if the railroads permitted cars to be loaded with no assurance of unloading space at destination." Thus some increase in storage facilities may be necessary.

As to the general situation covering the transport of both agricultural and non-agricultural commodities, the Bureau expressed the opinion that "perhaps the greatest potential source of additional box car capacity can be obtained through heavier loading." Even though "possible shortages in steel may seriously curtail any proposed plans for new box car construction this need not be alarming if the

railroads take steps to enforce heavier loading of l.c.l. cars in order to make available an important additional supply of serviceable box cars for other traffic." Short routeing of cars also was recommended.

Considering factors which may distort any transportation estimate, the Bureau pointed out that in the case of agricultural products adverse weather conditions or exceptionally favorable ones may change the demand situation for box cars in a relatively short time. Because of the unpredictable nature of crop condition, it was assumed in the Bureau's study that normal conditions will prevail in 1941 and that the crop demand for box cars will be normal.

The Bureau summed up its report with the following conclusions:

1. The estimated supply of serviceable box cars available in each quarter of 1941 will be ample to meet the estimated demand for such equipment for transporting both agricultural and non-agricultural box car traffic.
2. Heavier loading of box cars, particularly of l.c.l. cars, offers a quickly available source of serviceable box cars if the need for additional box car equipment above present estimates arises in 1941.
3. Elimination of circuitous routeing of both loaded and empty cars could be used to increase the available supply of equipment.
4. Effective control of the use of freight car equipment is exercised by the Car Service Division of the Association of American Railroads, which has the cooperation of shippers through the thirteen Shippers Advisory Boards. If this voluntary control should fail, the Interstate Commerce Commission has emergency car service powers which would provide compulsory control.
5. Because of insufficient organization to function as a unified transportation system, any available excess capacity of motor carriers is an isolated facility incapable of being directed to the most efficient use.
6. Some provision for increased grain storage capacity must be made. Additional commercial storage, the use of port storage, and the encouragement of farm storage, are possible means of meeting the problem. Of these, farm storage for at least that portion of the grain crop in excess of present and prospective storage capacity, would seem to be the simplest solution.

I. C. C. Frowns on Forwarders Again

(*Continued from page 534*)

do not adhere scrupulously to those schedules and give preferences and advantages to particular patrons, when deemed necessary to attract traffic, (3) that a considerable number of forwarders have been created recently for the specific purpose of circumventing regulation under the act, particularly under Part II, and (4) that ownership or control of forwarders has been acquired by carriers and by shippers for the purpose of enjoying special advantages in transportation."

Then comes the general statement of the majority view, mentioned at the outset, followed by the section-by-section comment on the bill. The commission suggested a new definition of a freight forwarder, and changes designed to insure that collection and delivery operations performed for forwarders would be treated in the same manner as those performed by carriers subject to Parts I, II, and III. It recommended that provisions to exempt certain forwarding operations be eliminated, coming then to the aforementioned suggestion that the minimum rate rule be omitted. Briefly, the bill's minimum rate rule would prohibit a forwarder from maintaining a rate lower than the lowest rate in effect between the same points by common carriers by railroad, motor vehicle or water. If the rule (an "arbitrary" standard) were eliminated, the letter points out, the commission would retain full power to prescribe maximum or minimum forwarder rates—"or the same power that it has with respect to carriers subject to the act."

In connection with its recommendation that there be no authorization of joint rates between forwarders and carriers, the commission had this to say: "Joint rates between shippers and carriers are anomalous. There is no occasion whatever, so far as we know, for joint rates between forwarders and carriers subject to Part I or Part III, and the only occasion for such rates between forwarders and carriers subject to Part II is one of expediency. By means of joint rates of this character, the shipper, i.e., the forwarder, can pay the motor carrier compensation in the form of a division, which is less than other shippers pay for like service, and without raising questions of unjust discrimination or undue preference and prejudice. This ought not to be."

Accompanying the commission's recommendation that the certificate provisions be stricken was a suggestion that adequate control over the right to engage in forwarding business could be provided by making it necessary for forwarders to obtain "nontransferable licenses or permits." Previously the letter had asserted that because the forwarder "merely uses existing facilities that would be available to the shipper in any event, no determination of public convenience and necessity is necessary"; and the commission majority see no reason why any forwarder, "large or small, should be given transferable franchises or rights to operate of value in the market, thus opening the door to all manner of deals and trading."

With respect to affiliation of forwarders with carriers or shippers, the commission thinks that the bill's merger provisions should be rewritten to prohibit the continuation after January 1, 1942, of such affiliations. Barring a situation wherein a forwarder might be controlled "by a group of *all* the carriers whose services it utilizes," the commission still adheres to the conclusion that "the public interest requires that the forwarder be an agency independent of carrier control." It is further of the opinion that "control of forwarders by shippers that utilize their services leads to abuses and virtual rebates and is contrary to the public interest."

In his separate expression Chairman Eastman indicated his agreement with the view that it would be practicable to combine forwarder legislation with Part I of the act; but he believes the proposed new Part IV would "on the whole be more satisfactory to all concerned." In the Lea bill, and more particularly in S. 210 introduced in the Senate by Senators Reed and Wheeler, Mr. Eastman finds an "apparent effort . . . to avoid any language which would indicate that freight forwarders have the status of common carriers." Mr. Eastman has no doubt that "the forwarders that undertake to provide transportation for shippers from a point of origin to a point of destination and assume full responsibility therefor are common carriers at common law, quite as much as the express companies, whose operations are very similar." He would include the term "common carrier" in the bill's definition of a forwarder. On the question of joint rates, Mr. Eastman joins with the commission majority in recommending that they be not authorized. At the same time, however, he would permit the carriers to publish special rates applicable on forwarder traffic; and he would let the present set-up continue for a year after the bill's enactment in order to afford time for embodying similar arrangements into motor carrier tariffs.

Chairman Eastman does not favor elimination of bill's certificate provisions; and he favors the July 20, 1937, "grandfather" date. The latter, he explained, was the date of the commission's first decision holding that forwarders are not subject to the act. Since that time, it has been pointed out, a large number of forwarding agencies have been set up for the purpose of circumventing the provisions of the act, particularly Part II, the Motor Carrier Act. Commissioner Mahaffie's aforementioned agreement-in-part with Mr. Eastman does not include assent to what the chairman had to say about the form of the bill and certificates of convenience and necessity.

Chairman Lea inserted the commission's letter and Mr. Eastman's statement into the record of the March 13 session of his committee's hearing on the forwarder bill. W. J. H. McEntee, vice-president and treasurer of Acme Fast Freight, Inc., whose appearance on behalf of the Freight Consolidators & Forwarders Institute was noted in last week's issue, was still in the witness chair when the hearing recessed from March 14 until March 18. Because of interruptions for questions from committee members, the Acme vice-president had not finished reading his prepared statement; and chairman Lea suggested that the remainder of the statement be inserted into the record in order to permit John V. Lawrence, general manager of American Trucking Associations, Inc., to appear at the March 18 session. Most of the questions directed to Mr. McEntee indicated the concern of committee members as to how the bill would affect various specific situations or forwarding operations of interest to their constituents. At one point the Acme vice-president stepped aside for a moment to permit Ervin Manske, assistant general traffic manager of the Allis-Chalmers Manufacturing Company, Milwaukee, Wis., to state his position in favor of legislation regulating forwarders; but in opposition to the bill's minimum-rate rule.

General Manager Lawrence of A. T. A. appraised the bill as one which, taken as a whole, would be "fair and equitable." It involved, he said, compromises between its trucker and forwarder supporters. Among other things the truckers feel that if the joint-rate provisions stay they want the protection of the special minimum-rate rule. He would not be willing to leave the minimum rate matter to the I. C. C. under some general provision. In the latter connection he mentioned fears among truckers that the I. C. C., exercising general minimum rate powers, might permit forwarder

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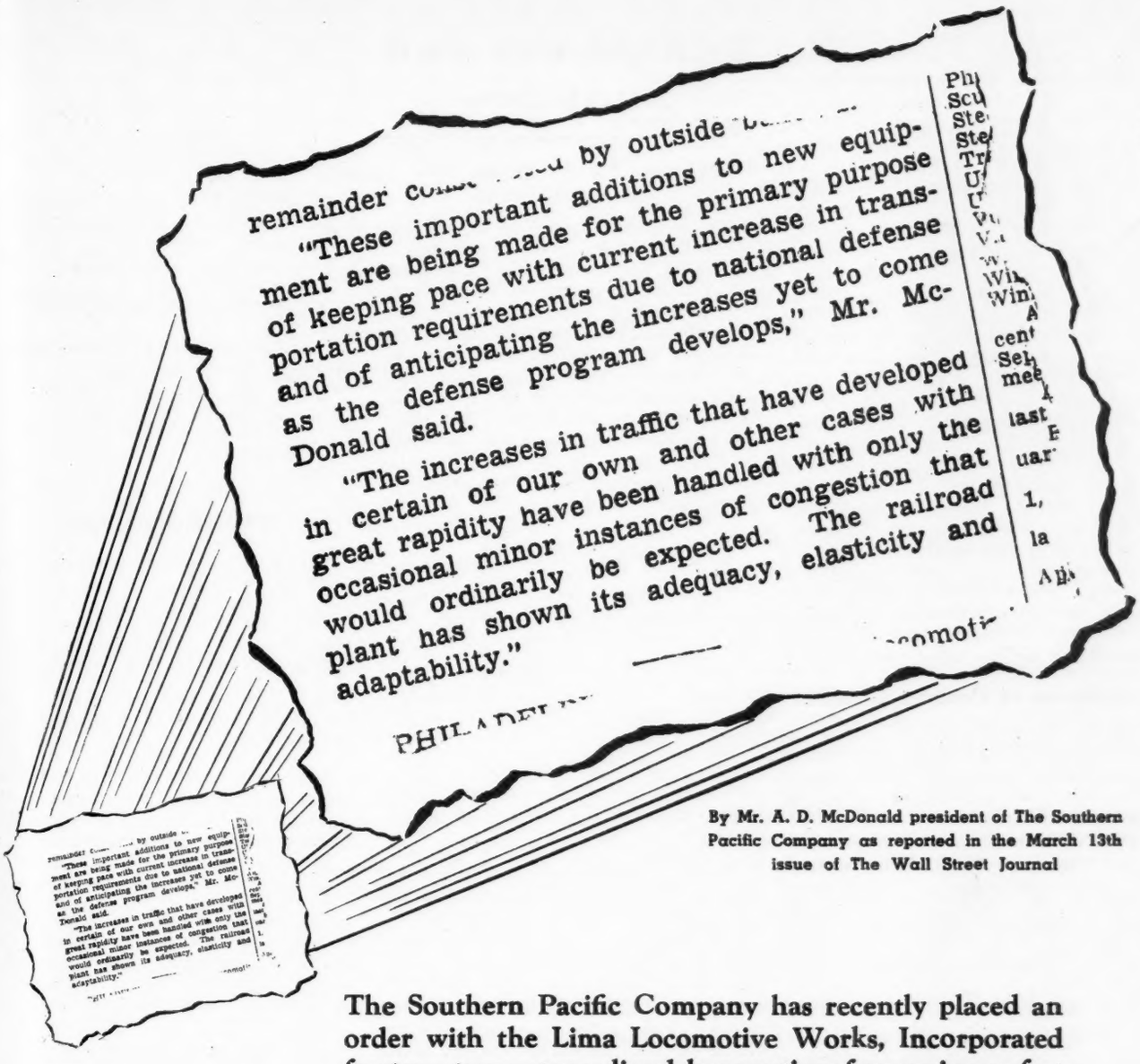

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"These important additions to new equipment are being made for the primary purpose of keeping pace with current increase in transportation requirements due to national defense and of anticipating the increases yet to come as the defense program develops," Mr. McDonald said.

"The increases in traffic that have developed in certain of our own and other cases with great rapidity have been handled with only the occasional minor instances of congestion that would ordinarily be expected. The railroad plant has shown its adequacy, elasticity and adaptability."

By Mr. A. D. McDonald president of The Southern Pacific Company as reported in the March 13th issue of The Wall Street Journal

The Southern Pacific Company has recently placed an order with the Lima Locomotive Works, Incorporated for ten steam streamlined locomotives for service on fast passenger and merchandise freight trains. These locomotives are part of a $20,000,000 new equipment program being inaugurated by the railroad to keep abreast of the increasing transportation requirements.

During the past five years the Lima Locomotive Works, Incorporated has received five substantial orders for locomotives from the Southern Pacific, a telling indication of the progressive policy that has made this railroad one of the outstanding passenger and freight carriers in the country.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

rates to drop below the level of competing truck rates.

Mr. Lawrence was followed by Charles E. Cotterill, counsel for the Middle Atlantic States Motor Carrier Conference, who stated that his client's support of forwarder legislation contemplated that such legislation should embody three provisions, i. e., the provision authorizing joint-rates with motor carriers; a "rigid, non-discretionary" minimum-rate rule; and a stipulation that the joint-rate provision authorize such rates only in connection with the gathering and distribution operations of forwarders. Before epitomizing his position in the foregoing fashion, Mr. Cotterill had told the committee that the forwarders have "sold the motor carrier industry" on the idea that it is in the public interest and in the interest of the motor carrier industry to "rig up some scheme" of legalizing existing "price concessions" which forwarders obtain by reason of their joint-rate arrangements with motor carriers. Further, Mr. Cotterill called the present set-up one in which there were "some aspects" of a "subsidy" to forwarders, i. e., without the special arrangements with motor carriers they would be forced back into their original role of big terminal operators.

Contracts of Contract Carriers

Making its pending actions in the matter conform with pertinent provisions of the Transportation Act of 1940, the Interstate Commerce Commission has vacated and set aside that portion of its outstanding order in the Ex Parte No. MC-9 proceeding which would have required that contracts of contract motor carriers be open to public inspection. That phase of the order, originally scheduled to become effective April 1, 1940, was on March 26, 1940, postponed "until the further order of the commission."

Meanwhile, as the present report points out, the Transportation Act of 1940 contains a prohibition against the commission's making public the contracts, except as part of the record in a formal proceeding "where such action is consistent with the public interest and except where the contract appears not to conform to the carrier's published schedule." At the same time, however, the 1940 act contained another provision requiring that a contract carrier's schedules must contain the minimum rates "actually maintained and charged." The latter, the commission said, "obviates the necessity for making the carriers' contracts public, since the minimum rates or charges shown in their schedules must be actual rather than mere paper rates and charges." The commission will still require that the contracts be filed, but they will be kept in the confidential files.

Accompanying the commission's report in the foregoing connection was an order of Division 2 in the same proceeding. The order reopened the case for the purpose of considering the propriety of the promulgation of a rule or regulation requiring that schedules covering services not previously described in and covered by the schedules already on file, shall be accompanied by copies of the actual contracts covering such services. Briefs in the reopened proceeding will be received until April 14.

Equipment and Supplies

Missouri Pacific Orders Two Passenger Trains

The Missouri Pacific has ordered two streamlined trains for service between St. Louis, Mo., and Denver, Colo., placing two 4,000 hp. Diesel-electric locomotives with the Electro-Motive Corporation, and two diner-lounge cars, four deluxe coaches, two mail cars, two mail-baggage cars and a reserve mail-storage car with the Edward G. Budd Manufacturing Company. Four specially designed Pullman cars will be built by the Pullman-Standard Car Manufacturing Company. Inquiry for this equipment was reported in the *Railway Age* of January 25.

LOCOMOTIVES

THE LEHIGH VALLEY is reported to be contemplating the acquisition of some small Diesel-electric switching locomotives.

THE NEW YORK, ONTARIO & WESTERN is reported to be contemplating the acquisition of four small Diesel-electric switching locomotives.

THE NORFOLK & WESTERN is reported to be contemplating building five or six mallet type locomotives in the company's own shops.

THE UNITED STATES NAVY DEPARTMENT has awarded an order for three 45-ton, 300 hp. Diesel-electric locomotives to the H. K. Porter Company. Total value of the contract amounts to $68,750.

FREIGHT CARS

B. & O. Orders 1,350 Freight Cars

The Baltimore & Ohio has placed orders for a total of 1,350 freight cars allocating 1,000 hopper cars of 50 tons' capacity to the General American Transportation Corporation, 250 box cars of 50 tons' capacity to the Pullman-Standard Car Manufacturing Company and 100 cement cars of 70 tons' capacity to the Greenville Steel Car Company. The authorization for 2,400 freight cars, including the above equipment, was reported in the *Railway Age* of February 22 and the placing of orders for 1,000 gondola cars, in the *Railway Age* of March 1.

THE WESTERN MARYLAND has ordered 40 covered hopper cars of 70 tons' capacity from the American Car & Foundry Co.

THE PHELPS DODGE CORP. has ordered 80 air-dump cars of 90 tons' capacity from the Differential Steel Car Co. Inquiry for this equipment was reported in the *Railway Age* of March 8.

THE SOUTHERN PACIFIC has placed orders for the 2,500 box cars reported in the *Railway Age* of March 15 as provided for in the company's new equipment purchasing program, allocating 500 44 ft. box cars of 50 tons' capacity each to the Pressed Steel Car Company, General American Transportation Corporation, Bethlehem Steel Company and Pullman-Standard Car Manufacturing Company and 500 50 ft. box cars of 50 tons' capacity to the Mt. Vernon Car Manufacturing Company.

THE WABASH, reported in the *Railway Age* of February 22 as inquiring for 150 automobile cars, 50 mill-type gondola cars and 15 caboose cars, has decided to build this equipment in company shops, and is now asking for prices on parts.

THE UNITED STATES NAVY DEPARTMENT, Bureau of Supplies and Accounts, is asking for bids, April 4, on two 50-ton box cars and one 10,000 gal. tank car for Wickford, R. I. and Jacksonville, Fla., and one 50-ton box car for Corpus Christi, Tex.—Schedule 5896.

PASSENGER CARS

THE ILLINOIS CENTRAL is reported to be in the market for one 2-car passenger train.

THE CHICAGO, INDIANAPOLIS & LOUISVILLE is reported to be inquiring for nine baggage cars and one mail-baggage car.

THE KANSAS CITY SOUTHERN is reported to be in the market for one or two rail motor cars.

THE SOUTH AFRICAN RAILWAYS & HARBOURS are reported in the market for 21 passenger-train motor coaches comprising eleven second-class and ten third-class cars.

THE UNION PACIFIC has placed an order with the Pullman-Standard Car Manufacturing Company for 30 chair cars, 30 80-ft. baggage cars and 10 80-ft. baggage-mail cars, all of lightweight construction. Inquiry for this equipment was reported in the *Railway Age* of January 25.

IRON AND STEEL

THE READING has ordered 200 tons of 100-lb. rail from the Bethlehem Steel Company.

Construction

THE UNITED STATES WAR DEPARTMENT, Engineers Office, St. Louis, Mo., reports Longwill-Scott, Inc., of that city as low bidder ($19,974) for constructing a railroad spur at Jefferson Barracks, St. Louis.

ATCHISON, TOPEKA & SANTA FE.—Approximately 290 ft. of temporary pile trestle is being driven over the Los Angeles river on the main line in Los Angeles, Cal. The work is being done by railroad forces.

UNION PACIFIC.—Construction of a new 126-ft. turntable at Cheyenne, Wyo., has just been completed. The new turntable, which cost approximately $60,000, replaced a 100-ft. turntable, and a deck girder, three point bearing type.

VIRGINIAN. — A contract has been awarded the Ross & White Company, Chi-

cago, for a skip-type N. & W. engine coaler and a two-track N. & W. type cinder plant to be installed at Norfolk, Va.

WESTERN MARYLAND. — The Ross & White Company, Chicago, is constructing a 100-ton fireproof gravity sand handling plant with steam drying equipment, for sanding locomotives on two tracks, at Hagerstown, Md.

Supply Trade

General American Transportation Corporation

The annual report of the General American Transportation Corporation and its subsidiaries for 1940 shows a net profit of $4,242,404, as compared with $3,214,043 in 1939. Gross income from sales and rentals amounted to $43,395,673, compared with $27,820,624 in 1939, leaving an operating profit of $12,833,494. Current assets at the end of 1940 amounted to $14,727,090 and current liabilities to $5,186,203.

American Locomotive Company Annual Report

Net profit earned by the American Locomotive Company in 1940, after depreciation, taxes and all other charges, amounted to $2,850,913, equivalent, after preferred stock dividends, to 50¢ per share on the 767,900 shares of common stock outstanding. The company paid $5 per share (total $1,759,805) on preferred dividends in arrears. The report stated company officers were continuing to give thought to some plan by which accumulated preferred dividends of $42.75 per share may be liquidated. Significant comparisons follow:

	1940	1939
Gross sales	$38,438,938	$22,358,740
Cost of goods sold*	34,951,916	23,484,238
Profit from operations	$3,487,022	†$1,125,498
Other income (int., etc.)	344,321	360,131
Other charges	37,151	56,556
Prov. for federal and foreign income taxes	943,279	.....
Prov. for dec. in conversion value of Canadian subsid. current assets	.....	128,453
	$2,850,913	†$950,376

† Indicates loss.
* Includes depreciation as follows: 1940—$917,702; 1939—$895,478.

	1940	1939
Current assets	$20,433,366	$17,851,948
Current liabilities	4,475,265	2,854,828
Ratio	5-1	6-1

	Unfilled orders at Dec. 31,	
	1940	1939
Chiefly for regular prod.	$24,400,000	$12,800,000
Ordnance & munition prod.	113,900,000	.....
	$138,300,000	$12,800,000

Plant additions necessitated by increased production demands, both commercial and indirectly connected with national defense programs of the United States and Canada, required an expenditure of about $1,300,000. In addition, plants will be augmented with facilities directed connected with the respective defense programs aggregating approximately $7,500,000 which facilities will be financed by the respective governments who will retain title thereto.

William C. Dickerman, chairman of the board, stated that the increased volume of sales in 1940 was reflected in all divisions of the business, but more particularly in the steam and Diesel locomotive divisions; that in addition to an increase in domestic sales of steam locomotives there was a considerable increase in foreign sales; that there had been a strong demand for the company's switching locomotives and the passenger Diesel locomotive was well received. The report further stated that activity of the Diesel division has been increased to capacity largely as a result of the performance of the company's Diesel engines in the fast passenger locomotives, the combination freight and switching locomotives and the switching locomotives. The steam locomotive demand remains only moderate, but it is expected that when the vast production called for by the defense program begins to move later this year, it will require increased production of steam locomotives.

General Electric Company Annual Report

Net income earned of the General Electric Company in 1940, after provision for total taxes during the year of $54,943,000, amounted to $56,241,083—as compared with $41,235,644 in 1939—an increase of 36 per cent, and equivalent to $1.95 per share of common stock. Dividends of $1.85 per common share were paid during the year. The company stated that in 1940 for the first time in more than a decade, productive facilities approached full utilization, and that following the announcement of the national defense program, the volume of orders received increased so rapidly that enlargement of capacity of several of the company's plants was undertaken.

The volume of new business booked in 1940 amounted to $654,189,642, a total greater than that for any previous year in the company's history, and was equivalent to an increase of 81 per cent over the corresponding total for 1939. This resulted partly from the unusual demand for equipment for the defense purposes, for which orders amounting to approximately $250,000,000 were received, and partly from an increase in regular commercial business. Shipments billed to customers during 1940 amounted to $411,938,259, an increase of 35 per cent over the billing during 1939.

D. R. Brehm has been appointed district manager in charge of the **Bendix-Westinghouse Automotive Air Brake Company's** new office at St. Louis, Mo. **George S. Blackmore** and **William H. Parish, Jr.,** will assist Mr. Brehm as representatives of the Dallas, Tex. and Memphis, Tenn., territories, respectively.

Newton P. Selover has been appointed western sales manager with headquarters at Chicago of the locomotive equipment division of **Manning, Maxwell & Moore,** Inc. For the past seven years Mr. Selover has represented the locomotive equipment division on the Pacific coast with headquarters in San Francisco, Cal.

Clarence C. Rausch, who has been affiliated with the **Dearborn Chemical Company,** Chicago, for 20 years, has been promoted to assistant vice-president in charge of NO-OX-ID sales to railways,

Clarence C. Rausch

with headquarters at Chicago. During the last 10 years, he has devoted his time to the promotion of NO-OX-ID rust preventive in the railway industry. Prior to his service with the Dearborn Chemical Company, he spent four years in the operating department of the Pennsylvania.

Marion Law, Jr. has been appointed public relations director for the **Edward G. Budd Manufacturing Company,** succeeding W. Howe Sadler who has resigned. Mr. Law has been with the Budd

Marion Law, Jr.

Company for two years as a publicity representative and prior thereto was in charge of the New York office of the T. W. A. News Bureau.

The Southern Wheel division of the **American Brake Shoe & Foundry Co.** has effected changes in its organization to separate the three functions of operations, sales and development. **A. H. Elliot,** vice-president of the division, has been placed in charge of development, engineering and service. Mr. Elliot graduated from the Sheffield Scientific School in 1904 and was with the Pennsylvania until 1909, at which time he joined the American Brake Shoe & Foundry Co. He was elected vice-president of the Southern Wheel division

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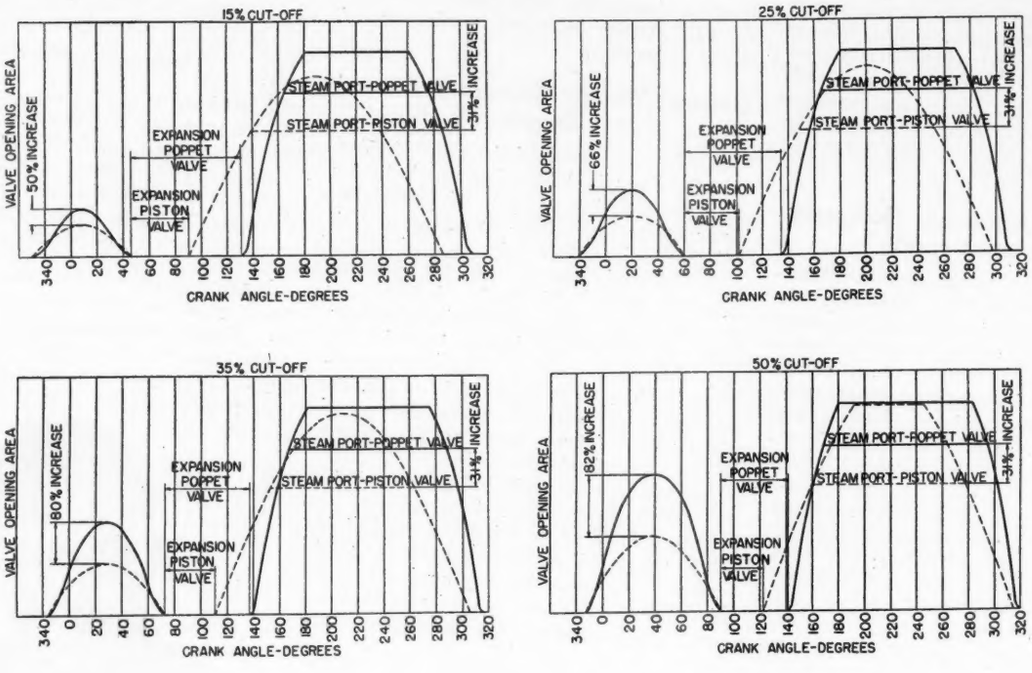
SEPARATELY CONTROLLED

Typical comparative valve opening curves

POPPET VALVE——

PISTON VALVE– – – –



Valve Opening Curves

Attention is directed to the typical valve opening curves shown in the accompanying charts for four different settings of cut-off. In compiling these curves a long travel 14" Piston Valve was taken as base.

1. Note the greatly increased port openings. The admission opening is increased 50%, 66%, 80% and 82% respectively for the 15, 25, 35 and 50% cut-off positions. The exhaust area has been increased 31%. These are extremely conservative figures and in the majority of cases the percentage of increase would be greater.

2. Note the prolonged expansion line with nearly 100% greater length at cut-offs below 25%.

3. Note the fast opening and closing of the Poppet Valves indicated by the near vertical opening and closing lines.

4. Note the desirable decrease in compression as the cut-off is shortened.

FRANKLIN RAILWAY

NEW YORK

VALVE EVENTS... increase power!

THE FRANKLIN SYSTEM OF STEAM DISTRIBUTION

SEPARATE control of the valve events assures the improved cylinder performance obtained with the Franklin System of Steam Distribution. » » » The improvement in valve opening area, as well as the speed with which the valves open and close, the advantages of the late release, and desirably controlled compression, are graphically shown in the accompanying charts. It will be noted that the length of expansion is nearly doubled. » » » By developing this improved method of steam distribution, Franklin Railway Supply Company has removed the most important limitation to the development of the steam locomotive.

SUPPLY COMPANY, INC.

CHICAGO MONTREAL

in 1927. **J. T. Talbot** has been elected vice-president in charge of sales. He is also vice-president of the Brake Shoe & Castings division and has been associated with the company since 1920. **W. C. Appleby** has been appointed operating manager. Mr. Appleby started with the Decatur Car Wheel Company in 1906, shortly after graduating from Georgia Tech and became a member of the Southern wheel organization when the Decatur Company was taken over. **J. B. Spencer** has resigned as vice-president of the Southern Wheel division to devote all his time to the Ramapo Ajax division, of which he is president.

OBITUARY

Henry S. Mann, who retired as district sales manager of the Standard Stoker Company, Inc., Chicago, on March 1, 1939, died in that city on March 16 of a heart ailment. He was born in New Hampshire on September 23, 1865, and entered railway service on the Old Colony. Later he was employed on the Wabash, the Illinois Central and the Northern Pacific following which he served as service engineer of the Westinghouse Air Brake Company and western manager of the Metal & Thermit Corporation. He resigned from the latter position in 1924 to become district sales manager of the Standard Stoker Company, Inc.

William T. Bennison, a railroad contact officer of the Edward G. Budd Manufacturing Company, died March 16 after a protracted illness. He was 50 years of age. Mr. Bennison graduated from Syracuse University in 1913 and entered the

William T. Bennison

employ of the Chicago, Milwaukee, St. Paul & Pacific, where he later became engineer of tests. During his subsequent business career he was assistant mechanical engineer and later, development and service engineer of the Locomotive Feedwater Heater Company (now the Superheater Company), equipment engineer with the Westinghouse Electric and Manufacturing Company, and assistant chief engineer of the Corning Glass Company. He joined the Budd Company in 1933 to help produce the first Diesel-electric stainless-steel Zephyr. Mr. Bennison was a member of the New York Railroad Club and the Western Railway Club.

Financial

AKRON, CANTON & YOUNGSTOWN.—*Merger.*—In reporting, in the *Railway Age* of March 8, that the circuit court of appeals at Cincinnati, Ohio, had upheld a plan to reorganize the Akron, Canton & Youngstown and the Northern Ohio into one company, it was erroneously stated that appeal from the district court's action had been taken by the A. C. & Y. The appeal was made by the Railroad Credit Corporation.

BALTIMORE & OHIO.—*Abandonment by the Confluence & Oakland.*—The Confluence & Oakland and the Baltimore & Ohio, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon a line and the operation of a line extending from Confluence & Oakland Junction, Pa., south to Kendall, Md., 19.8 miles. Necessity for the abandonment of the line is occasioned by the construction by the federal government of a flood-control dam and reservoir on the Youghiogheny River which will cause the inundation of a large part of the line.

A coal company, the principal shipper on the line, argued that the branch should be relocated, but the War Department, which is constructing the dam, preferred to buy the track at a salvage price rather than to relocate it. A majority of Division 4 agreed with this view, while Commissioner Miller, concurring, thought that the coal company, which, the evidence showed, would be forced out of existence because of higher freight rates, should be given "equitable relief" . . . "directly because relocation of the tracks is not justified."

CHICAGO & NORTH WESTERN.—*Reorganization.*—The full Interstate Commerce Commission, in a seven to four decision, has affirmed a recent decision of Division 4 which had denied a petition of the debtor company asking that it fix a maximum limit of allowance for expenses for its appeal to the United States Circuit Court of Appeals from a decision of the District Court approving the commission's final plan of reorganization for this company under section 77 of the Bankruptcy Act. Details of Division 4's decision and Commissioner Porter's dissent were given in the *Railway Age* of January 18, page 199.

Chairman Eastman and Commissioner Porter each wrote separate dissents, which Commissioners Aitchison and Alldredge joining in the latter's opinion. After pointing out that if the commission were to fix the maximum limits of funds allowable for an appeal, the judge in charge of the reorganization was not required to allow any of the funds if he did not see fit, Chairman Eastman went on to declare that on the other hand, if the commission refused to fix the maximum limits, the judge is thereafter precluded from making any allowance, "even if he is of the opinion that the expenses *are* a proper charge against the estate."

"I am reluctant," concludes the chairman, "to reach the conclusion that the expense of securing a determination by the highest authority of whether the plan of reorganization is or is not in accord with law is not a proper charge against the estate. And I am still more reluctant, as one of those who joined in the adoption of the plan, to do anything which may help to bar the way to such an appeal. I realize that the denial of the petition before us is without prejudice to its renewal 'at such a time as the debtor is prepared to show actual expenses incurred and the resulting benefit to the estate,' but a denial of such a petition at this stage might easily prevent this later state from ever being reached."

"In cases such as this, where we have held that in the reorganization of the property, stock once having a value of hundreds of millions of dollars is to be totally disregarded," writes dissenter Porter, "we should not indulge in superfine, specious, legal refinements to prevent or place obstacles in the way of a review of our conduct by the higher courts. True, the majority holds that if by some hook or crook, parties are able to perfect their appeal, then at some future time when the exact amount expended is known, they may come to us and have the amount determined 'and the resulting benefit to the estate.' This last is a matter wholly for the courts, and the former is a striking illustration of the old adage of locking the barn door after the horse has been stolen."

Commissioner Porter would have the commission fix a lump-sum maximum limit of $18,000, within which the court may authorize the debtor's trustee, upon such showing of necessity for, or proof of, the expenditures as the court may require, to pay out for such an appeal to the higher court.

CHICAGO & WESTERN INDIANA.—*Annual Report.*—The 1940 annual report of this road shows net income, after interest and other charges, of $359,843, a decrease of $96,808 as compared with net income in 1939. Selected items from the income account follow:

	1940	Increase or Decrease Compared with 1939
RAILWAY OPERATING REVENUES	$127,233	−$31,772
Maintenance of way	21,558	+4,531
Maintenance of equipment	44,896	+4,174
Transportation—Rail	110,608	+1,014
TOTAL OPERATING EXPENSES	188,061	+10,253
Operating ratio	147	+35
NET LOSS FROM OPERATIONS	60,828	+42,026
Railway tax accruals	858,338	+11,287
Net rents	2,188,665	−58,743
NET RAILWAY OPERATING INCOME	1,269,497	−112,056
Other income	2,096,938	−1,332
TOTAL INCOME	3,366,436	−113,388
Interest on funded debt	2,921,514	−28,017
TOTAL FIXED CHARGES	2,945,449	−17,115
NET INCOME	$359,843	−$96,808
Disposition of net income:		
Income balance transferred to profit and loss	$359,843	−$96,808

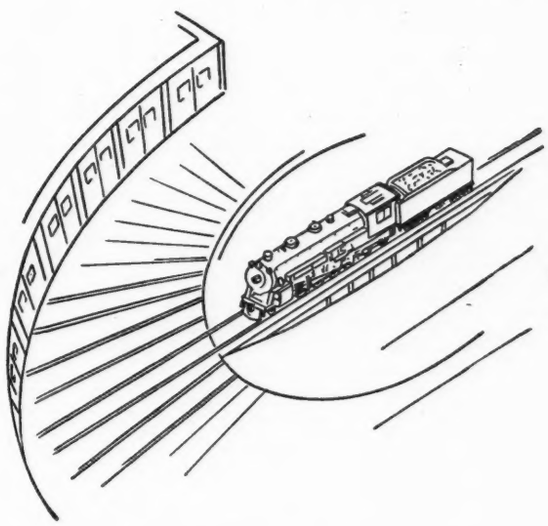
CHESTERFIELD & LANCASTER.—*Discontinuance of Service.*—All train service was discontinued on this short line effective

Continued on next left-hand page

SPECIAL BRICK

SHAPES

...are a nuisance



The initial standardization of Arch Brick shapes and sizes and Arch tube spacing was the work of the American Arch Company.

It is a work that goes forward constantly and saves the Stores and Mechanical Departments a vast amount of trouble.

The easiest solution to many a locomotive Arch engineering difficulty would be to use a special brick shape. But this the American Arch Company is willing to do only as a last resort. Over 50% of all Arch Brick is covered by 6 separate patterns.

The insistence of American Arch Company on adhering to standards has simplified the work of the Storekeeper and Maintenance Man. It is only one of the many ways in which American Arch Company is serving the railroads.

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Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

midnight, March 19. The Interstate Commerce Commission has authorized the road to abandon operation, according to the *Railway Age* of January 25, page 234.

CHICAGO & NORTH WESTERN.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a branch line extending from Blackwell Junction, Wisc., to Blackwell, 3.3 miles.

CINCINNATI UNION TERMINAL.—*Bonds.*—This company has awarded an issue of $3,000,000 of bonds, due 1971, to the Union Central Life Insurance Company, following competitive bidding in which investment banking houses competed. The insurance company offered 100, plus a premium of $149, for securities bearing an interest rate of 2.60 per cent. The proceeds of the sale will be used to retire outstanding preferred stock as of July 1 at 105.

DULUTH, SOUTH SHORE & ATLANTIC.—*Remuneration of Co-trustee.*—Division 4 of the Interstate Commerce Commission has ordered that beginning February 1, Sigurd Ueland shall be paid at the rate of $10,000 per year for his part time services as co-trustee and as counsel for the trustees in this company's reorganization proceedings under section 77 of the Bankruptcy Act.

ERIE.—*Annual Report.*—The 1940 annual report of this road shows net income, after interest and other charges, of $14,263, as compared with a net deficit of $1,449,521 in 1939. Selected items from the income statement follow:

	1940	Increase or Decrease Compared with 1939
RAILWAY OPERATING REVENUES	$86,606,612	+$5,389,249
Maintenance of way	7,722,501	+363,005
Maintenance of equipment	16,054,071	−67,094
Transportation	32,587,266	+1,854,056
TOTAL OPERATING EXPENSES	61,662,045	+2,289,135
Operating ratio	71.20	−1.90
NET REVENUE FROM OPERATIONS	24,944,566	+3,100,113
Railway tax accruals	6,984,241	+222,384
Railway operating income	17,960,325	+2,877,729
Net rents—Dr.	4,106,329	+487,868
NET RAILWAY OPERATING INCOME	13,853,996	+2,389,860
Other income	1,071,221	−49,645
TOTAL INCOME	14,925,217	+2,340,215
Rent for leased roads and equipment	1,454,709	+289,905
Interest on funded debt	12,224,209	+186,538
TOTAL FIXED CHARGES	13,963,572	+365,136
NET INCOME	$14,263	+$1,463,784

ILLINOIS CENTRAL.—*Abandonment by the Yazoo & Mississippi Valley.*—Division 4 of the Interstate Commerce Commission, in Finance Docket No. 12548, has issued an order permitting the physical abandonment of the line between Greenville, Miss., and Riverside Junction to become effective immediately but had retained jurisdiction until such a time as there is a final determination by the Supreme Court of its authority over labor protection matters in abandonment cases. (As noted in last week's issue, a special three-judge United States District Court for the District of Columbia has decided that the commission has such authority. This notice would indicate that the commission will probably take an appeal in the case so that a final determination may be had.)

As pointed out in the *Railway Age* of March 8, page 442, the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen and Enginemen, and the Brotherhood of Railroad Trainmen had asked the commission to retain jurisdiction in the case until its labor protection authority had been ascertained. Later Division 4 granted this request and postponed the effective date of the order for 30 days, making that date 70 days from January 25. Then the railroad asked that the order be made effective immediately insofar as the physical abandonment was concerned, since there had been no disagreement in Division 4 on this point, and that the commission retain jurisdiction. This latter petition was granted, as was pointed out above, thus permitting the railroad to abandon the line immediately, since the 40 days from January 25 has already expired.

NEW YORK, CHICAGO & ST. LOUIS.—*New Director.*—General Benedict Crowell, president of the Central National Bank of Cleveland, Ohio, and during the first World War, assistant secretary of war and director of munitions, has been elected a director of the Nickel Plate. He fills the vacancy caused by the death last November of Earl Bailie, of New York.

NEW YORK, NEW HAVEN & HARTFORD.—*Reorganization expenses.*—Fees and expenses aggregating $2,231,572 incurred in reorganization proceedings of this road were sought in 39 petitions for accounts filed with Examiner H. H. Wilkinson, of the Interstate Commerce Commission at a hearing in Boston, Mass., on March 18.

SOUTHERN PACIFIC.—*Bonds of the Pacific Electric.*—The Pacific Electric has asked the Interstate Commerce Commission for authority to issue $6,000,000 of five per cent collateral trust bonds, to be exchanged, together with cash, for first mortgage gold bonds of the Pacific Electric which will be due January 1, 1942, and for first mortgage gold bonds of the California Pacific due July 1, 1941. The holders of the bonds will get 20 per cent in cash and 80 per cent in new bonds. The new bonds will be dated July 1, 1941, and will mature January 1, 1957.

At the same time the Pacific Electric has asked authority under an open mortgage to issue $7,500,000 of refunding mortgage, 50-year, five per cent gold bonds, series A, to be dated September 1, 1911, to mature September 1, 1961, and to be used as collateral for the collateral trust bonds. The Southern Pacific has asked authority to assume liability for both issues of bonds.

WABASH.—*Reorganization Plan Filed.* The receivers have filed with the federal district court in St. Louis and with the Interstate Commerce Commission in Washington a modified plan of reorganization for this company. The Pennsylvania has agreed, subject to authorization by the commission, to purchase Wabash common stock, provided that not less than 50 per cent of the voting shares put in escrow are made available for purchase. Under the amended plan, the Pennsylvania could purchase a maximum of 65 per cent control, but this would depend on how much new common stock the present bondholders are willing to release in return for a cash settlement. It would cost the Pennsylvania $7,626,000 to buy all the new common stock to be issued, and $5,800,000 if only 50 per cent were purchased. The following are the principal changes made in the amended plan:

1. Parity of treatment is to be given the receivers' certificates, series A and series B, necessitating an increase from $4,491,411 to $4,533,206 in the amount of serial collateral 1½ per cent notes which are allocated to these certificates for 50 per cent of the principal of their respective claims, the balance being adjusted through the issue of 75 per cent in new first four per cent bonds and 25 per cent in four per cent income bonds, series A.

2. Interest on all receivers' certificates, part of which was to be funded under the revision dated December 6, 1940, is to be paid in cash.

3. The holders of first lien terminal four per cent bonds are to receive 50 per cent of their claim in new first four per cent bonds and 50 per cent in series A income bonds.

4. The allocation to holders of refunding and general mortgage bonds of $8,895,623 of series B income bonds remains unchanged; the amount of new preferred stock which they are to receive is reduced from $31,134,678 to $22,239,056, and the number of shares of common stock (taken at $100 each) is correspondingly increased, provision being thus made for the full principal of and accrued interest on the refunding and general mortgage bonds.

5. Lastly, the plan provides that the new common stock, consisting of 598,186 shares without par value, is to be placed in escrow subject to sale, unless withdrawn by the parties entitled to receive it under the plan, to the holders of preferred and common stock of the present company at $12.75 per share. Of the purchase price of the stock sold for present holders of refunding and general mortgage bonds $11.75 a share would be paid to the seller and $1 a share would be paid to the reorganization managers.

WILKES-BARRE & EASTERN.—*Remuneration of Trustee and Counsel.*—Division 4 of the Interstate Commerce Commission has ordered that Joseph P. Jennings, trustee, and Leo W. White, counsel, shall be paid at the rates of $3,600 and $3,000, respectively, for their services for a period of three months from March 1, in this company's reorganization proceedings under section 77 of the Bankruptcy Act.

Dividends Declared

Wheeling & Lake Erie.—$1.00, payable April 1 to holders of record March 25.

Average Prices of Stocks and Bonds

	Mar. 18	Last week	Last year
Average price of 20 representative railway stocks..	29.26	29.16	31.02
Average price of 20 representative railway bonds..	64.10	63.38	58.73

Continued on next left-hand page

Seven POINTS TO REMEMBER

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5 Have they ease of operation?

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Railway Officers

EXECUTIVE

Col. John W. Wheeler, executive assistant on the Chicago, Burlington & Quincy, with headquarters at Chicago, has been granted a leave of absence, and is now commanding the 113th Engineers Combat. 38th Division, at Camp Shelby, Miss.

FINANCIAL, LEGAL AND ACCOUNTING

Richard J. Leimer, assistant director of the Bureau of Railway Economics since 1925, has retired after a service of more than 30 years with that Bureau. He was born in Trenton, N. J., on June 29, 1880, and joined the B. R. E. statistical staff in November, 1910, shortly after the organization of the Bureau. He was appointed assistant director in 1925, remaining in that position until his retirement.

OPERATING

O. J. Meisner, Jr., superintendent of the Savannah & Atlanta, has been appointed superintendent of transportation, with headquarters as before at Savannah, Ga.

L. V. Thomas, dispatcher on the Union Pacific at La Grande, Ore., has been promoted to trainmaster, with headquarters at Spokane, Wash.

H. H. Maxwell has been appointed superintendent of the Iowa-Nebraska-Wyoming division of the Railway Express Agency, Inc., with headquarters at Omaha, Neb., succeeding **Harry M. Peyton,** who retired on March 1.

T. J. Timper and **P. B. Anderson,** supervisor and engineer, respectively, in the industrial department of the Missouri Pacific at St. Louis, Mo., have been promoted to industrial agents, with the same headquarters.

I. H. Richards, assistant general yardmaster on the Chesapeake & Ohio, has been appointed terminal trainmaster, with headquarters at Ashland, Ky., succeeding **L. F. Cabell,** whose death on February 11 was reported in the *Railway Age* of February 22.

W. R. Galloway, Jr., trainmaster on the Baltimore & Ohio at Baltimore, Md., has been promoted to superintendent of the Eastern division of the Alton, with headquarters at Bloomington, Ill., succeeding **Clarence W. Bearden,** who retired on March 15. Mr. Bearden was born at Spartanburg, S. C., on February 12, 1880, and attended business college. He entered railway service in 1896 as a station helper on the Southern, later serving as agent at Cowpens, S. C., operator at Spartanburg and Charlotte, N. C., and car distributor at Greenville, S. C. In 1901 he went with the Chicago & Alton (now the Alton) as a dispatcher and two years later was promoted to chief dispatcher. In 1909 Mr. Bearden was advanced to trainmaster and later to assistant superintendent and superintendent. On March 1, 1916, he was promoted to superintendent of transportation, with headquarters at Bloomington, and in January, 1929, he was further advanced to general superintendent, with the same headquarters. In August, 1931, he was appointed superintendent of the Eastern division, which position he held until his retirement.

TRAFFIC

John E. McIntyre has been appointed agricultural agent for the Canadian National, with headquarters at Moncton, N. B.

C. O. Miller, freight claim agent of the Chesapeake & Ohio, with headquarters at Richmond, Va., has also been appointed chief special agent, to succeed **M. Welsh,** who has been appointed chief special agent —advisory.

O. E. Schultz has been appointed chairman of the Coal and Coke committee of the Trunk Line Association, succeeding **Joseph Weed,** who has been relieved, at his own request, from the duties of that position, and has been appointed coal traffic consultant of the association.

E. C. Brown, rate clerk on the Chicago, Indianapolis & Louisville (Monon), has been promoted to general agent, passenger department, at Chicago. **F. E. Cannon,** general agent at Winston-Salem, N. C., has been appointed general southeastern freight agent at Atlanta, Ga., and **J. A. Reichley,** traveling freight agent at Birmingham, Ala., has been promoted to general agent at Winston-Salem, succeeding Mr. Cannon.

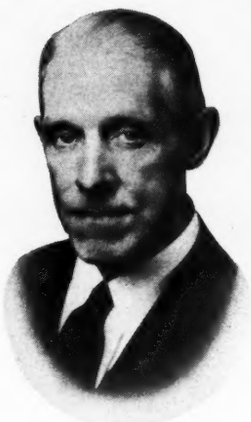
L. S. Cook, general agent, freight department, for the Chicago, Rock Island & Pacific at El Paso, Tex., has been promoted to assistant general freight agent at Denver, Colo., succeeding **J. W. E. Trefz,** whose promotion to perishable freight traffic manager at Chicago, was announced in the *Railway Age* of March 8. **S. L. Lewis,** traveling freight agent at San Antonio, Tex., has been advanced to general agent at El Paso, replacing Mr. Cook.

F. F. Robinson, general agent for the Union Pacific at St. Louis, Mo., has been promoted to general freight and passenger agent, with headquarters at St. Joseph, Mo., succeeding **Louis Motter,** who retired because of ill health on February 28, and **Walter W. Hott,** traveling freight and passenger agent at Detroit, Mich., has been advanced to general agent at St. Louis, replacing Mr. Robinson.

Mr. Robinson entered the service of the Union Pacific in 1905 as an office boy at Kansas City, Mo., and after several years as a clerk in the traffic department at Kansas City, became a freight traffic agent in 1920. In March, 1926, he was promoted to general agent at Tulsa, and on February 1, 1933, he was transferred to St. Louis.

Mr. Motter was born in St. Joseph and entered railway service as a clerk in the traffic department of the Union Pacific at St. Joseph in 1909. During the first World War, he served in the U. S. Army, returning to the traffic department in St. Joseph in 1919 as chief clerk. From 1922 to December, 1928, Mr. Motter held various supervisory positions in the freight traffic department in Omaha and on January 1, 1929 was promoted to general freight and passenger agent at St. Joseph.

Charles E. Barry, whose appointment as manager of a newly created foreign freight department of the Chicago, Rock Island & Pacific, with headquarters at Chicago, was announced in the *Railway Age* of March 15, was born in Muskegon,



Charles E. Barry

Mich., and attended Loyola College and Lewis Institute in Chicago. Mr. Barry is the son of the former president of the Barry Steamship Line, and for many years has served various lines operating on the Great Lakes, including the Goodrich Line, the Shawmuth Steamship Company of Boston, the United American Steamship Company and the Caldwell Shipping Company in charge of the freight traffic departments.

William B. Futral, assistant general freight agent on the Chicago, Rock Island & Pacific at Oklahoma City, Okla., has been promoted to assistant freight traffic manager, with headquarters at Little Rock,

William B. Futral

Ark., succeeding **John M. Spann,** whose promotion to freight traffic manager in charge of solicitation, with headquarters at Chicago, was announced in the *Railway*

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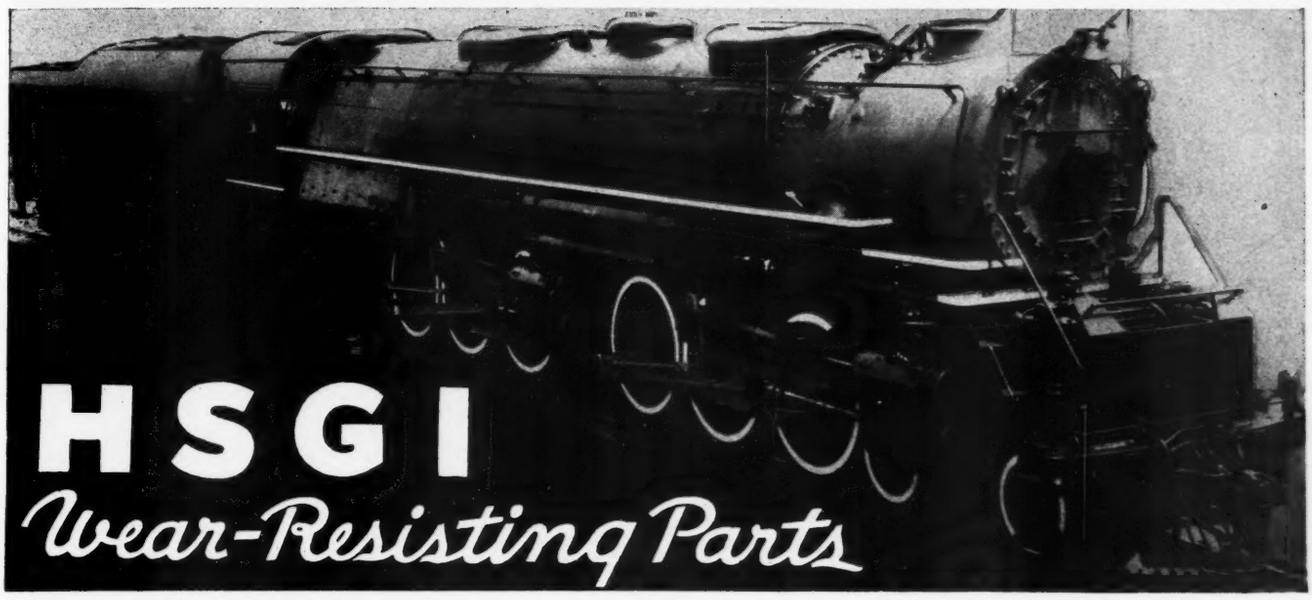

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Duplex Sectional Type Packing
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for Diesel Service

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HUNT-SPILLER GUN IRON
Air Furnace

Age of March 8. **J. O. Younger,** general agent at New Orleans, La., has been advanced to assistant general freight agent at Oklahoma City, replacing Mr. Futral, and **Carl Rawls,** commercial agent at Alexandria, La., has been promoted to general agent at New Orleans, relieving Mr. Younger.

Mr. Futral was born at Fort Smith, Ark., on June 19, 1902, and entered railway service in June, 1919, as a station helper on the Gulf, Colorado & Santa Fe at Alta Loma, Tex., and later served as a clerk in the office of the superintendent of transportation at Houston, Tex., and a clerk in the office of the superintendent at DeQuincy, La. On October 15, 1923, he went with the Southern Pacific as a roadmaster's clerk at Lake Charles, La., and on September 16, 1924, he went with the Rock Island as secretary to the superintendent and car distributor at Fort Worth, Tex. On June 15, 1931, Mr. Futral was appointed traveling freight agent at Amarillo, Tex., and five years later he was promoted to division freight agent at that point. On January 1, 1938, he was advanced to assistant general freight agent at Oklahoma City, the position he held until his recent promotion.

MECHANICAL

J. E. Goodwin, general foreman in the Missouri Pacific shops at Little Rock, Ark., has been promoted to master mechanic on the International-Great Northern at San Antonio, Tex.

The headquarters of **John Gogerty,** superintendent of motive power and machinery for the Eastern district of the Union Pacific, have been transferred from Omaha, Neb., to Cheyenne, Wyo.

ENGINEERING AND SIGNALING

W. A. Kingman, office engineer on the Eastern lines of the Atchison, Topeka & Santa Fe, has been promoted to district engineer of the Western district of the Eastern lines, with headquarters as before at Topeka, Kan., succeeding **John L. Starkie,** who has been transferred to Galveston, Tex.

PURCHASES AND STORES

Major Edwin W. Peterson, general storekeeper of the Bangor & Aroostook, with headquarters at Derby, Me., has been called for active duty for one year with the Railway Section, Office of the Chief of Engineers, Washington, D. C.

SPECIAL

C. T. Sills, assistant director of public relations of the Denver & Rio Grande Western, has been appointed advertising manager, a newly created position, with headquarters as before at Denver, Colo. Matters of publicity and public relations will continue to be handled by **George F. Dodge,** director of public relations.

OBITUARY

Charles Hewitt Sisson, former secretary-treasurer of the Raritan River, with headquarters at Jersey City, N. J., died on March 13 after a long illness at his home in Tenafly, N. J., at the age of 74. Mr. Sisson retired in October, 1939, after 47 years of service.

Edward E. Dore, who served in 1905 and 1906 as president and general manager of the Chicago, Peoria & Western (a switching road) and the Illinois Valley Belt (no longer in operation) with headquarters in Chicago, died at the St. Elizabeth's hospital in that city on March 13. Mr. Dore also served from 1902 to 1906 as vice-president of the Crystal Car Line and from 1916 to 1936 as secretary and treasurer of the International Transit Company at Chicago.

Peter F. Frenzer, who retired on December 31, 1938, as superintendent of telegraph of the Union Pacific, with headquarters at Omaha, Neb., died in that city on March 16. Mr. Frenzer was born in Omaha, and entered the service of the Western Union at Omaha on July 29, 1881, as a messenger and check boy. On November 1, 1883, he went with the Sioux City & Pacific (now part of the Chicago & North Western) as a telegraph operator, and on January 1, 1884, he went with the Chicago, Burlington & Quincy as an operator on the Western division. In May, 1886, he re-entered the service of the Western Union at Omaha. Mr. Frenzer entered the service of the Union Pacific on October 26, 1890, and on May 6, 1908, he was advanced to manager of the telegraph department. On August 10, 1914, he was promoted to superintendent of telegraph, and on April 16, 1931, his jurisdiction was extended to include the entire system.

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 133 Monthly Reports of Revenues and Expenses Representing 137 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF JANUARY, 1941 AND 1940

Item	United States		Eastern District		Southern District		Western District	
	1941	1940	1941	1940	1941	1940	1941	1940
Miles of road operated at close of month	232,441	233,130	57,267	57,412	44,241	44,385	130,933	131,333
Revenues:								
Freight	$309,580,453	$283,134,018	$135,862,260	$125,941,866	$65,170,467	$59,620,513	$108,547,726	$97,571,639
Passenger	40,158,615	36,079,204	20,817,805	19,589,944	7,305,527	6,147,725	12,035,283	10,341,535
Mail	8,390,508	8,085,564	3,165,297	3,040,044	1,470,524	1,434,247	3,754,687	3,611,273
Express	3,405,839	3,577,228	1,213,834	1,459,757	768,480	799,402	1,423,525	1,318,069
All other operating revenues	15,838,775	14,763,109	8,008,707	7,436,968	2,133,696	1,962,500	5,696,372	5,363,641
Railway operating revenues	377,374,190	345,639,123	169,067,903	157,468,579	76,848,694	69,964,387	131,457,593	118,206,157
Expenses:								
Maintenance of way and structures	36,737,443	33,945,314	15,440,600	13,909,151	7,639,414	7,126,501	13,657,429	12,909,662
Maintenance of equipment	74,217,719	68,978,746	34,900,758	32,087,262	14,050,674	13,476,957	25,266,287	23,414,527
Traffic	8,875,257	8,824,224	3,151,215	3,141,024	1,831,741	1,823,151	3,892,301	3,860,049
Transportation—Rail line	133,970,077	130,850,092	61,722,506	60,814,158	23,492,795	23,007,995	48,754,776	47,027,939
Transportation—Water line	568,817	519,044	2,522	.....	.....	.....	566,295	519,044
Miscellaneous operations	3,671,158	3,453,092	1,619,697	1,538,692	635,611	600,412	1,415,850	1,313,988
General	11,108,386	11,045,400	4,413,716	4,361,418	2,183,812	2,138,466	4,510,858	4,545,516
Transportation for investment—Cr.	179,975	219,936	22,249	50,893	39,590	47,592	118,136	121,451
Railway operating expenses	268,968,882	257,395,976	121,228,765	115,800,812	49,794,457	48,125,890	97,945,660	93,469,274
Net revenue from railway operations	108,405,308	88,243,147	47,839,138	41,667,767	27,054,237	21,838,497	33,511,933	24,736,883
Railway tax accruals	35,519,068	31,243,291	14,921,047	13,151,273	8,881,223	7,222,906	11,716,798	10,869,112
Railway operating income	72,886,240	56,999,856	32,918,091	28,516,494	18,173,014	14,615,591	21,795,135	13,867,771
Equipment rents—Dr. balance	7,798,887	8,378,341	3,539,548	4,208,313	436,807	511,761	3,822,532	3,658,267
Joint facility rent—Dr. balance	2,729,946	2,608,705	1,531,273	1,577,384	307,551	81,905	891,122	949,416
Net railway operating income	62,357,407	46,012,810	27,847,270	22,730,797	17,428,656	14,021,925	17,081,481	9,260,088
Ratio of expenses to revenues (per cent)	71.3	74.5	71.7	73.5	64.8	68.8	74.5	79.1
Depreciation included in operating expenses	17,656,805	16,871,614	7,738,445	7,312,483	3,566,028	3,403,885	6,352,332	6,155,246
Pay roll taxes	10,049,976	9,636,701	4,484,136	4,331,754	1,816,818	1,766,929	3,749,022	3,538,018
All other taxes	25,469,092	21,606,590	10,436,911	8,819,519	7,064,405	5,455,977	7,967,776	7,331,094

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.